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EXTREMELY LOW FREQUENCY (ELF) VERTICAL ELECTRIC FIELD EXPOSURE --ETC(U)
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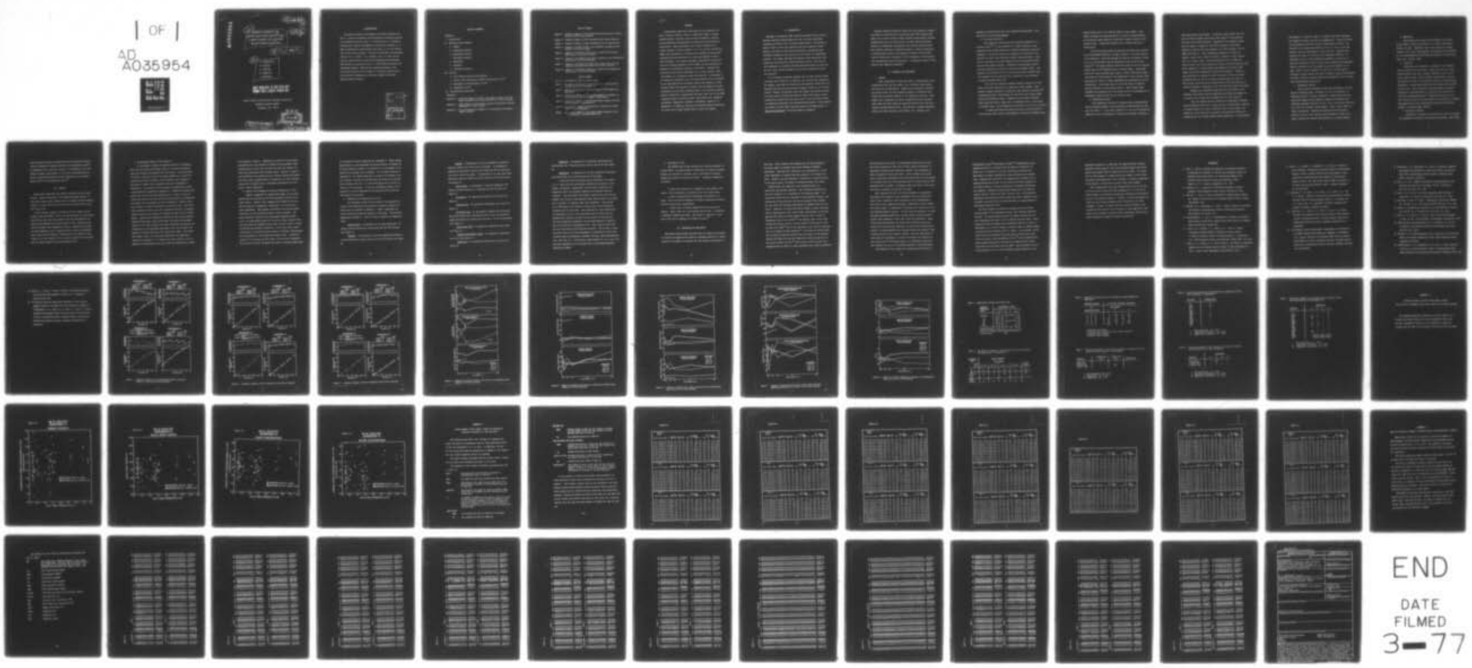

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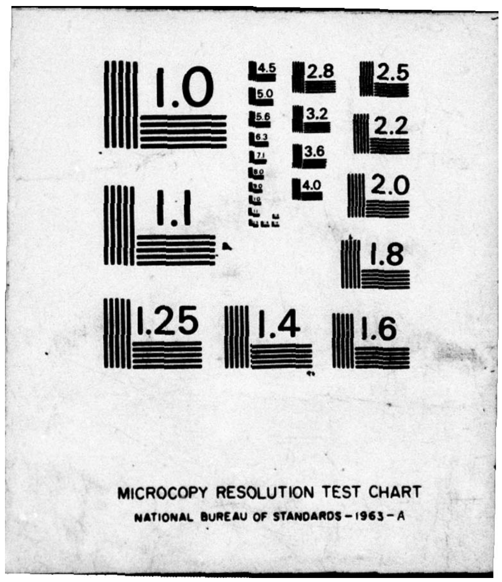
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EXTREMELY LOW FREQUENCY (ELF) VERTICAL ELECTRIC FIELD EXPOSURE OF RATS: A SEARCH FOR GROWTH, FOOD CONSUMPTION AND BLOOD METABOLITE ALTERATIONS.

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ABSTRACT

Three hundred eighty-four young male rats were exposed to 45 Hertz, vertical, electric fields in nonmetallic cages, to detect possible effects on growth, food and water consumption, selected blood biochemical and hematological constituents and pathological observations. Three experiments, each using six groups of 16 animals exposed to field strengths of 0, 2, 10, 20, 50, and 100 V/m (RMS), were performed; all variables were analyzed for statistical differences and the existence of a "dose-relationship" of these field strengths. One further experiment, employing 48 control animals and 48 animals exposed to 20 V/m (RMS), was also performed to minimize the likelihood of missing a true effect. Although some differences were found in experiments E, F, and H, neither a dose-relationship nor a biological effect was observed. In experiment G, no statistical differences ($p < 0.05$) were observed for any variables. It was concluded that no biological effects from exposure to these electric fields were observed on growth, food consumption and water consumption, nor the blood concentrations of total protein, globulin, glucose, cholesterol, triglycerides and total lipid, nor on the hematological values for red blood cells, white blood cells, segmented neutrophils, lymphocytes, monocytes, eosinophils, hematocrit or hemoglobin. In addition, necropsy and histopathological examination of tissue from 15 organ systems did not reveal any changes.

A

I. INTRODUCTION

Extremely Low Frequency (ELF) radiation generally denotes electromagnetic radiation having frequencies from a few Hertz (sometimes including zero Hertz of dc) to several hundred Hertz. The natural or ambient levels of this type radiation have been reviewed by Polk;[1] however, the extent to which these fields may be interacting with biological systems has been and still is the subject of considerable research. The largest man-made ELF radiation comes essentially from commercial electrical power lines operating at 60 Hz. With the recent development of the Navy's ELF Communications System for operation at 45 or 75 Hz, another man-made source of this radiation will come into existence.

It is becoming increasingly apparent that at least certain animals can sense these fields and, in addition, even utilize this information. For example, some birds are affected by weak magnetic fields[2] and it is proposed that they may use terrestrial magnetic fields to aid in orientation.[3] Kalmÿn has presented data that suggest that sharks and rays can locate prey by the weak ELF electric fields they produce, and he proposed that certain fish also may be able to use terrestrial fields in obtaining orientational and navigational information. Other biological effects from ELF fields have been reported by Goodman *et al*. on *Physarum polycephalum*,[4] and Gavalas-Medici on monkeys.[5]

Recently large 60 Hz electric fields have been reported to reduce the growth of rats[6] and mice,[7] and Noval et al.[8] have reported that small 45 Hz vertical electric fields produced reduced growth, reduced abdominal body fat, and altered brain and liver enzyme activities. Because two independent investigators have reported lowered growth, this research represents a dedicated attempt to verify the existence of lowered growth rates in rats exposed to similar 45 Hz, vertical, electric fields and to determine if food consumption or blood metabolite concentrations were also perturbed. A preliminary report of this work has been submitted elsewhere.[9]

II. MATERIALS AND PROCEDURES

1. Animals

Male, approximately 180 gm, Har:(SD)(1), Sprague-Dawley rats, obtained from Hill Top Lab Animals, Inc., Scottdale, Pennsylvania, were used for all experiments. Animals were quarantined, evaluated for health status, and then randomly assigned to individual cages within the six exposure chambers of the irradiation facility. Body weight, food consumption and water consumption data were obtained three times each week during the exposure period and the 5-day pre-exposure acclimatization period. The diet was a standard commerical rodent feed (Wayne Lab-Blox, Allied Mills, Inc., Chicago, Ill.)

obtained in pulverized form for food consumption measurements. Food and water were provided ad libitum.

2. Irradiation Facility

The irradiation facility has been described completely in a previous report.[10] It was contained in a typical laboratory room maintained under slight positive air pressure minimizing outside contamination. Access was restricted to personnel concerned with this research, who wore clean laboratory jackets, masks and gloves. Room air was circulated at 23 room volumes per hour and filtered by HEPA and activated alumina filters. Illumination was provided 12 hours each day, beginning at 6:00 a.m., from room and chamber lights. Temperature was controlled at 22° ± 2°C and continuously recorded; relative humidity was not controlled but a continuous record indicated it remained between 25% to 55%.

There were six identical exposure chambers contained in three racks, each rack consisting of an upper and a lower chamber. Each exposure chamber contained 16 nonmetallic cages described previously,[10] providing food from a 250-cm^3 glass jar and water from a glass sipper tube and 250-cm^3 glass bottle. Chambers were horizontal, parallel plate capacitors with an upper plate of aluminum screen, a lower plate of aluminum sheet, and an average plate separation of 46.4 ± 0.3 cm (S.D.).

A signal-generating and signal-monitoring system provided the 45 Hz voltage, which could be independently varied from a nominally zero

field strength value up to 1000 V/m (RMS) for each chamber. This system contained two signal generators to provide a backup generator if the primary signal generator failed and to sound an alarm if both systems failed. Voltage and frequency were routinely measured to within $\pm0.5\%$.

The 45 Hz exposure field and existing ELF fields were measured by the IIT Research Institute, Chicago, Illinois, to provide quantitative information. Data were obtained for electric and magnetic fields at 15, 45, 60 and 180 Hz and were presented in the report of this facility.[10] The largest ambient fields were found at 60 Hz as expected because this is the frequency used for electric power. Even though these 60 Hz field strengths were typical of those found within office and residential environments,[11] the possibility of this electric field perturbing the results of these experiments was considered in the following manner. The average value of the 60 Hz electric field per cage was obtained for each animal position. These average field strengths were separated into four groups for use in determining if an interaction could be found with the exposure field.

3. Experimental Design

Four experiments (lettered E through H) were performed using the six exposure chambers, each containing 16 animals housed one per cage (see Table 1). Five field strengths of 2, 10, 20, 50 and 100 V/m (RMS) were used in experiments E, F and H in an attempt to observe a

dose-versus-effect relationship. In addition, these values cover the range of field strengths reported by Noval et al.[8] to have produced the effects previously mentioned. Experiment G was designed to maximize the number of animals for one field strength by using three chambers as controls and three chambers at a field strength of 20 V/m (RMS) (see Table 2). This configuration minimizes the chance of making a type-II error, which is failing to declare a result significant for a fixed α-level. The field strength of 20 V/m (RMS) was chosen because this value produced the effects observed by Noval et al.[8], and it represents a field strength approximately one hundred times larger than the ELF Communication System would generate. Because of the large number of animals in each 45 Hz group, they can be further classified into the four 60 Hz field strength groups (see Table 2). This two-way classification was analyzed with the two-way analysis of variance technique to determine if the 45 Hz and 60 Hz fields interacted.

Chambers were permanently numbered from one through six for reference, and chamber bias was minimized by utilizing each chamber as a control or for a given field strength only once (see Table 3).

After the exposure period, animals were individually withdrawn from the exposure room one at a time, given an intraperitoneal injection of chloral hydrate at a dose of 36 mg per 100 g of body weight, and placed in a clean cage until one animal from each group had been obtained and all six of these animals became unconscious. In this manner,

six animals at a time were taken to a separate room where euthanasia was completed by heart puncture and exsanguination. Three milliliters of anticoagulated blood were used for hematological analysis. The remainder of the sample was allowed to clot for 1 hour at room temperature, then was centrifuged to remove the clot, separated into aliquots and frozen at -60°C for later biochemical analysis. For experiments G and H, this procedure was modified in three ways to eliminate variability caused by recent food consumption and aggressive behavior exhibited by the six animals when placed together in one cage. First, food was withdrawn at 4:00 p.m. on the day before euthanasia; second, animals were kept in separate cages until euthanasia; and third, plasma was obtained from blood containing 5×10^{-3} M potassium ethylenediamine tetraacetate.

4. Biochemical Analysis

Total protein and globulin assays were performed on the Auto Analyzer (Technicon Corp., Tarrytown, N.Y.) by the technique of Sobocinski _et al._[12] Glucose, cholesterol, triglycerides and total lipids were assayed using commercial reagents and standards from Boehringer Mannheim Corporation (B.M.C., 219 E. 44th Street, New York, N.Y.) with the following catalog numbers: 15715, 15738, 15989 and 15991, respectively. Unknowns and quantitative serum controls (Monitrol I and II, Dade Division, American Hospital Supply Corp., Miami, Florida) were assayed simultaneously in a random sequence.

5. Hematology

Red and white cell counts were performed on the Coulter Counter Model B (Coulter Electronics, Inc., 590 W. 20th Street, Hialeah, Florida). Hematocrit values were obtained by reading capillary tubes after centrifugation, and hemoglobin was estimated by the cyanmethemoglobin method employing Drabkin's solution from Hycel, Inc., Houston, Texas.

6. Pathology

Necropsies were performed on a minimum of four randomly selected animals from each group. Tissues from the skin, brain, salivary gland, lung, heart, stomach, duodenum, cecum or colon, liver, spleen, kidney, urinary bladder, adrenal gland, pancreas and testes were saved in 10% buffered formalin for histopathologic examination. Adrenal glands and spleen were weighed when removed from the body. Tissue preparation and staining were performed according to accepted methods, as outlined in the Armed Forces Institute of Pathology Manual.[13] Hematoxylin and eosin (H & E) were routinely used, but selected samples were submitted to Gormori's methenamine silver stain, Brown-Brenn tissue gram stain and the periodic acid-Schiff (PAS) reaction.

7. Statistical Analysis

Histograms of individual observations were used to determine if nonparametric statistical tests should be employed. Body weight,

food consumption and water consumption data were analyzed using the t-test or analysis of variance followed by the Neuman-Keuls test[14] if significance ($p < 0.05$) was observed. For biochemical and histological analyses, significance ($p < 0.05$) was tested employing the one-way analysis and multiple pairwise comparisons of the Kruskal-Wallis tests[15] or the Mann-Whitney test.[16]

III. RESULTS

During these experiments the exposure facility operated without failure. Routine monitoring of the signal-generating systems, at least three times a week, revealed that the chamber voltages remained constant to within +4% and -2% and the 45 Hz frequency did not vary more than $\pm$ 0.2%.

In this research, growth is defined as the net change in body weight of the test animal. Due to the short duration of these experiments and the fact that these animals used were approximately the same age and observed for the same length of time, average per day values of growth, food consumption and water consumption per animal are valid measures to use in comparing groups within an experiment. These values were calculated by obtaining the total change in body weight or the total weight of food or water consumed for each animal over the 28-day exposure period and dividing by 28.

1. 60 Hz Ambient Electric Field Analysis

In an attempt to assess the possible effects of the ambient 60 Hz electric field, the average values of the field strength per cage were obtained and separated into four groups. Two-way analysis of variance, using the 45 Hz 60 Hz field strengths in a two-by-four classification shown in Table 2, was performed on the average per day values of growth, food consumption and water consumption of experiment G. The results of this analysis are summarized in Table 4 and graphically summarized in Appendix A. Differences between 45 Hz groups were not statistically significant ($p > 0.05$), nor was the interaction between the 45 Hz and 60 Hz fields found to be significant for growth, food consumption and water consumption. Further, there was no effect on growth attributable to the 60 Hz field. The statistical differences found in the food consumption and water consumption analyses occurred only between the highest and lowest field strength groups. Because these significant differences only occurred between exposure groups whose initial body weight and growth were markedly elevated, it is just as likely that these significant differences are attributable to the dependent relationship that food and water consumption have with both growth and initial body weight. The initial body weight, growth, food and water consumption are graphically summarized in Appendix A. To complete the 60 Hz analysis, the biochemical and hematological data were tested for significance; results

are presented in Table 5. Significance occurred in total protein and globulin data only between the highest and next-highest field strength groups, and in the red blood cell data only between the lowest and next-lowest field strength groups. Because no significant differences were observed for any variable between the highest and lowest field strength groups or between the two field strength groups with 36 animals each, no biological significance is attributed to these differences.

2. Growth, Food Consumption and Water Consumption at 45 Hz

Figure 1 summarizes the average body weight and the daily growth data for each group of the four experiments during the exposure period. Figures 2 and 3 summarize the cumulative and per-day food and water consumption, respectively, for each group of these experiments. These graphs, particularly the per-day graphs, illustrate the well-controlled nature of these variables. The small variations observed in the body-weight change/day graphs (e.g., in G experiment on days 10, 18 and 25) always occurred after the cage litter was changed and may result from the animal's attempt to mark his new bedding by defecation. Notice that these readily visible dips in the per-day growth produce a virtually indistinguishable displacement in the average body-weight curves. Statistical analysis of the average per-day growth, food and water consumption data versus 45 Hz field strengths (see Table 6) produced significance

in the growth and food consumption for experiment F. These average group values for each experiment are plotted against the applied 45 Hz field strength in Figure 4 to determine if a relationship to the applied field strength can be observed. In the growth analysis of experiment F, the control group was not found to be different from any irradiate, and only the 100 V/m group was found to be statistically different from the 2, 20 and 50 V/m groups but not from the control or 10 V/m groups. In the food consumption analysis of experiment F, the only significance was between the 20 V/m and the 100 V/m and 10 V/m groups.

3. Biochemistry and Hematology at 45 Hz

The individual values for each animal of the measured biochemical and hematological variables and statistical summaries for each group are presented in Appendix C. Table 7 summarizes the results from the statistical analysis of these data. Statistically significant findings ($p < 0.05$) for these variables are summarized below.

Total protein: In experiment H, the only significant difference occurred between the control group and the 100 V/m group (see Figure 5).

Globulin: In experiment H, the only significant difference occurred between the control group and the 100 V/m group (see Figure 5).

Glucose: In experiment E, the only significant difference found was between the control and 2 V/m groups. In experiment F, significant differences occurred only between the 100 V/m group and the control and 20 V/m groups. In experiment H, the only significant difference occurred between the control group and the 100 V/m group (see Figure 5).

Total Lipids: In experiment E, the only significant difference occurred between the 2 V/m group and 100 V/m group (see Figure 6).

Cholesterol: No significant differences were found (see Figure 6).

Triglycerides: No significant differences were found (see Figure 6).

Red Blood Cells: In experiment E, significant differences were found between the 2 V/m group and the 10, 20, 50 and 100 V/m groups and between the control group and the 2, 10 and 50 V/m groups (see Figure 7).

White Blood Cells: No significant differences were found (see Figure 7).

Segmented Neutrophils (POLY): No significant differences were found (see Figure 7).

Lymphocytes: No significant differences were found (see Figure 8).

Hematocrit: In experiment E, significant differences were found between the 2 V/m group and the control and 50 V/m (see Figure 8).

Hemoglobin: In experiment E, the only significant difference found was between the 2 V/m group and the 50 V/m group.

It was noted that the group-to-group variability (in Figures 5, 6, 7, and 8) and the within-group variability for glucose, total lipids, cholesterol, triglyceride, red blood cell, hematocrit and hemoglobin values were markedly reduced by the improved sacrifice technique. This improvement was probably caused by the fact that all animals were fasted for approximately equal times and were not excited due to placement in separate cages until euthanasia. There should be no differences in the plasma or serum values of the biochemical variables used in this study. After assaying for serum triglyceride in experiments E and F, it was discovered that the values for the standards were incorrect because of the presence of free glycerol. The values reported in Appendix C and the group medians of Figures 6 must be corrected by multiplying by 0.66. This constant factor does not alter the results from statistical analysis. The accuracy of this correction factor and of the measurements in experiments G and H were verified using two independent standards (Precilip, Boehringer-Mannheim Corp., New York, N.Y., and Triolein, Sigma Chemical Co., St. Louis, Mo.) and molar absorptivity of the reduced form of nicotinamide-adenine-dinucleotide (NADS).

4. Pathology at 45 Hz

All animals used in this analysis were coded and analyzed in a blind manner. No gross lesions or differences in adrenal and spleen weights were observed at necropsy, and no significant microscopic changes were present in any of the tissues. Incidental findings are as follows:

a. Small (6-8 cells) foci of lymphocytes were present in 39 livers. This accumulation is routinely seen in our issue stock.

b. Small accumulations of macrophages were present in 12 lungs. They were spread throughout all groups including the controls and were statistically insignificant.

c. Small areas of tubular degeneration were present in 8 kidneys. Again, these were in all groups and controls. In addition, 2 polycystic kidneys were found. This lesion is expected to occur with a low rate of frequency in "normal" S-D rats.[17]

IV. DISCUSSION AND CONCLUSIONS

The results from research concerned with the effects from exposure to electric and magnetic ELF fields are extremely difficult to assess because of the number of variables that may influence experiments of

this type. Until recently, ELF radiation has not been included in the large number of variables that could influence biological experiments. Even when this radiation is not considered, it is virtually impossible to control--much less monitor--all of these variables. However, once ELF radiation is included as a potential source of biological effect, the number of variables becomes even larger.

Theoretically, ELF radiation can be separated easily into terrestrial and man-made radiation. This convenient separation allows this research to be considered in the following manner. The terrestrial fields were not measured for this research; however, this laboratory and the room which was used for exposure will probably not have their ELF-shielding characteristics changed within the near future. Therefore, if terrestrial fields become a serious consideration in assessing this work, these fields could probably be measured. Man-made ELF fields are found anywhere electric power is used at frequencies from 25 Hz to 60 Hz.[18] For example, under certain high voltage power lines, electric field strengths of thousands of volts per meter are found,[19] and in the laboratory, every electric appliance that is on becomes an ELF irradiator.[10] To account for these fields, the IIT Research Institute measured the ELF fields of this exposure facility and found that the most significant field strength was for the electric field at 60 Hz.[10] This electric field has been fully documented and its effect on these experiments was tested by employing

two-way analysis of variance. No significant differences ($p < 0.05$) were found in growth for the 45 Hz or 60 Hz fields; and further, no significant interaction was observed on growth, food consumption or water consumption by these two fields. These findings and the fact that no significant differences were found between the two 60 Hz groups of 36 animals each led to the conclusion that the 60 Hz fields in this experiment did not produce a biological effect nor would it have interfered with an analysis of only the 45 Hz data.

After analysis with the 45 Hz field strengths, no significant differences were observed in any experiment for the following variables: water consumption, blood cholesterol, blood triglycerides, white blood count, segmented neurophils, lymphocytes, adrenal weights and spleen weights. No significant differences were observed in any of the histopathological analyses. For the following variables, the only observed significant differences occurred between irradiated groups: growth, food consumption, blood total lipids and hemoglobin. Significant differences between the control and irradiated groups only occurred for total protein, globulin, red blood cells and hemotocrit. Further, no dose-relationship was observed between the exposure field strength and any of the variables studied. The most unequivocal results came from experiment G, in which 48 animals were employed for both control and 20 V/m-exposed groups. No significant differences were observed for any of the variables measured in this experiment.

The findings of this research are consistent with the work of

Knickerbocker et al.[20] and Krueger and Reed.[21] Knickerbocker et al. exposed male mice to a vertical electric field of 157,000 V/m, at 60 Hz, for 10 1/2 months (6 1/2 hours each day) and analyzed for differences in growth, reproduction, gross pathology and histopathology. Although they noted that the unexposed male progenies of the exposed animals did not grow to be as heavy as the male progenies of the control animals, no other statistical or biological differences were observed. Krueger and Reed exposed female mice to horizontal electric fields to 100 V/m at both 45 Hz and 75 Hz. No statistical differences were observed between exposed and control aniamls in rate of growth, serotonin levels of blood and brain, or susceptibility to challenge by influenza virus.

In a final attempt to determine if ambient fields could have lowered growth of all experimental groups, the following comparison was made. The average growth rate for 96 similar animals used in a pilot experiment was found to be 7.8 grams per day per animal. These animals were fed and handled using procedures identical to those in experiments E, F, G and H; however, they were caged in standard number two mesh and sheet stainless steel rat cages. At our request, IIT Research Institute determined that these cages provided better than -40 dB of electric field shielding at 60 Hz,[22] which determined that these animals were grown for 28 days in an ambient 60 Hz electric field which was less than 0.010 V/m (RMS). Had the ambient electric fields present in E, F, G and H produced a growth reduction in all

experimental groups of at least 20%, the smallest growth reduction reported by Noval _et al._,[8] then these shielded animals should have growth rates greater than 9.2 grams per day per animal. The growth rate of these animals, 7.8 grams per day per animal, is well within the growth rates measured for the six groups of animals in experiment F (see Figure 4), which were as young as these pilot animals.

After exposing 384 young, male Sprague-Dawley rats for 28 days to 45 Hz vertical electrical field strengths of 2, 10, 20, 50 and 100 V/m (RMS), no biologically significant differences were observed in any of the measured variables. Further, no dose-relationship was found for any of these variables versus the applied 45 Hz field strengths. Finally, if indeed there were effects produced at ELF frequencies from electric field strengths of these magnitudes, then much of past biological research becomes jeopardized, because these field strengths are common to ordinary laboratories.

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22. IIT Research Institute Memorandum: Measurement of ELF Electromagnetic Fields at the AFRRI ELF Field Simulators, Appendix B of Mathewson, N. S., Oliva, S. A., Oosta, G. M. and A. P. Blasco, Extremely Low Frequency (ELF) Vertical Electric Field Exposure of Rats: Irradiation Facility, Technical Report, Armed Forces Radiobiology Research Institute, Bethesda, Maryland (to be published).

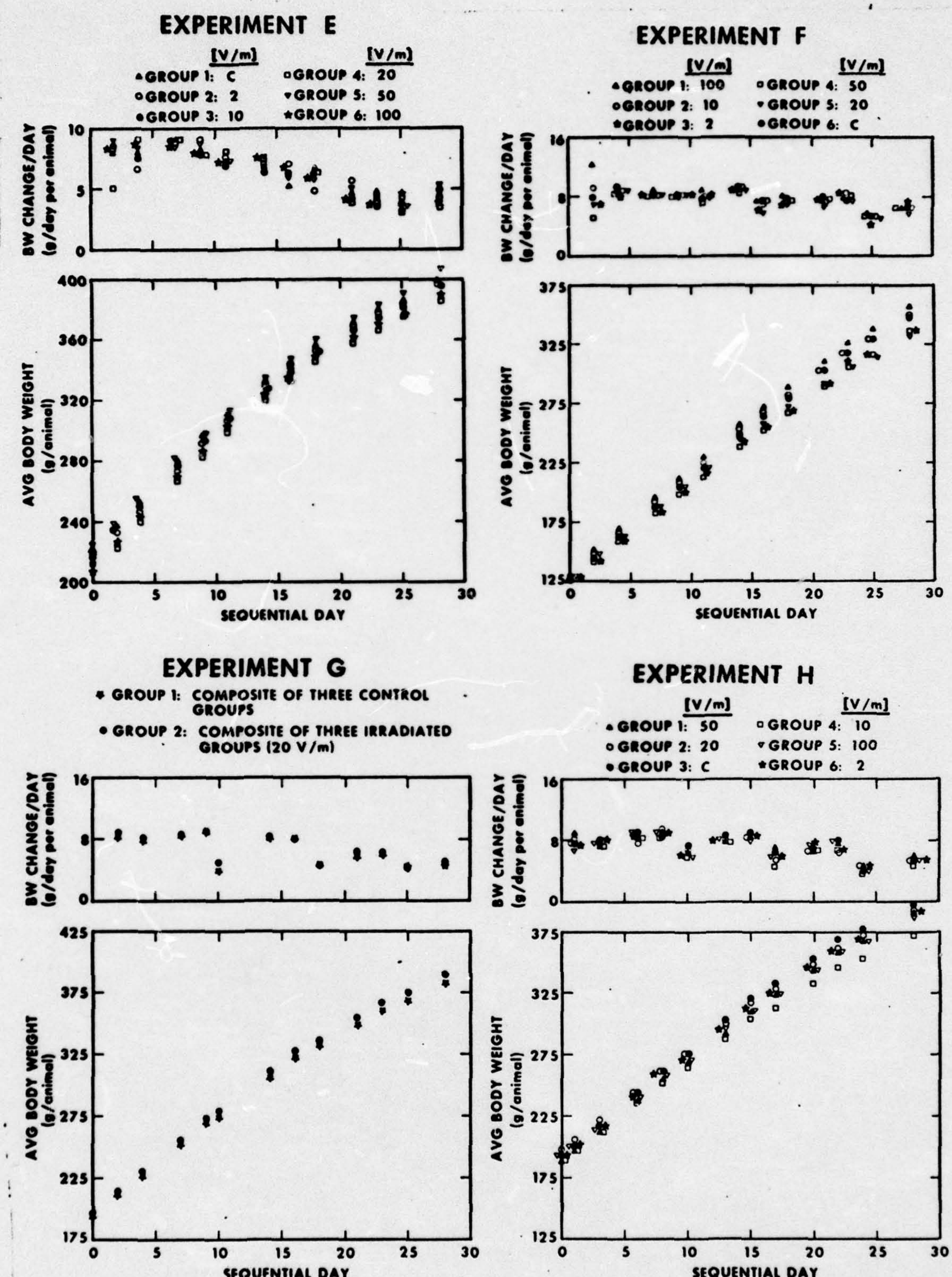


Figure 1. Graphical Summary of the Average Body Weight and Daily Growth for Each Group During Exposure.

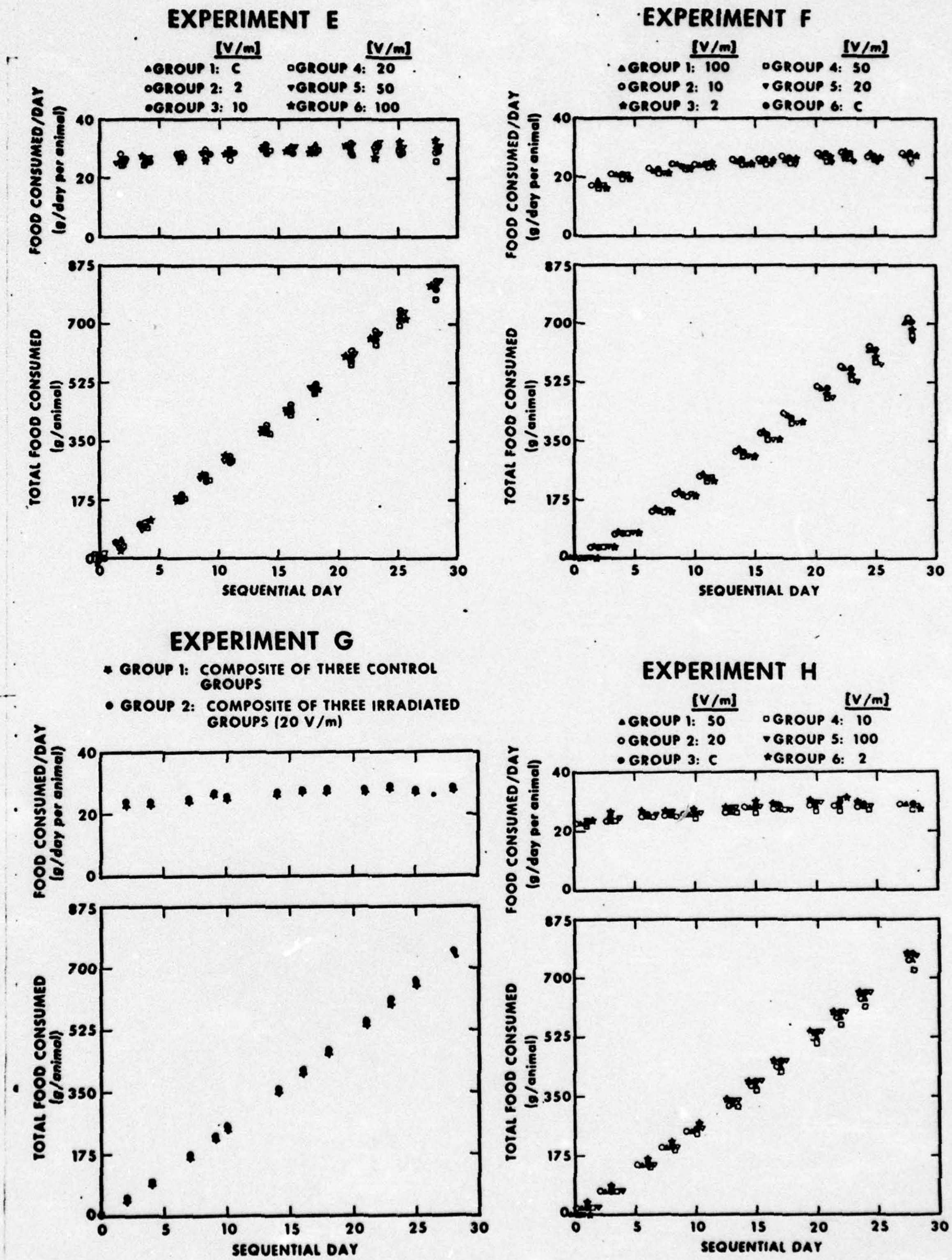


Figure 2. Graphical Summary of Food Consumption Data During Exposure.

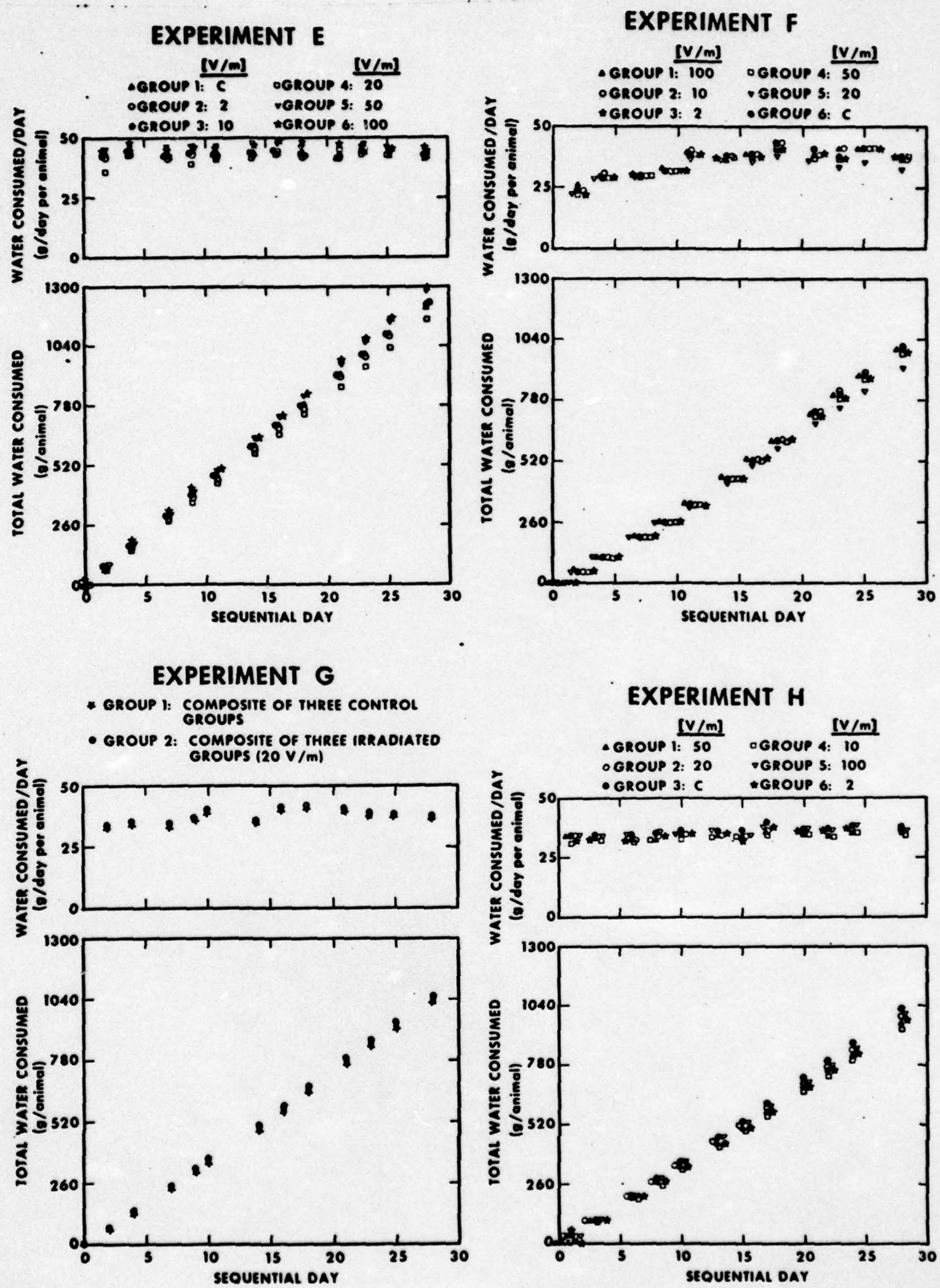


Figure 3. Graphical Summary of Water Consumption Data During Exposure.

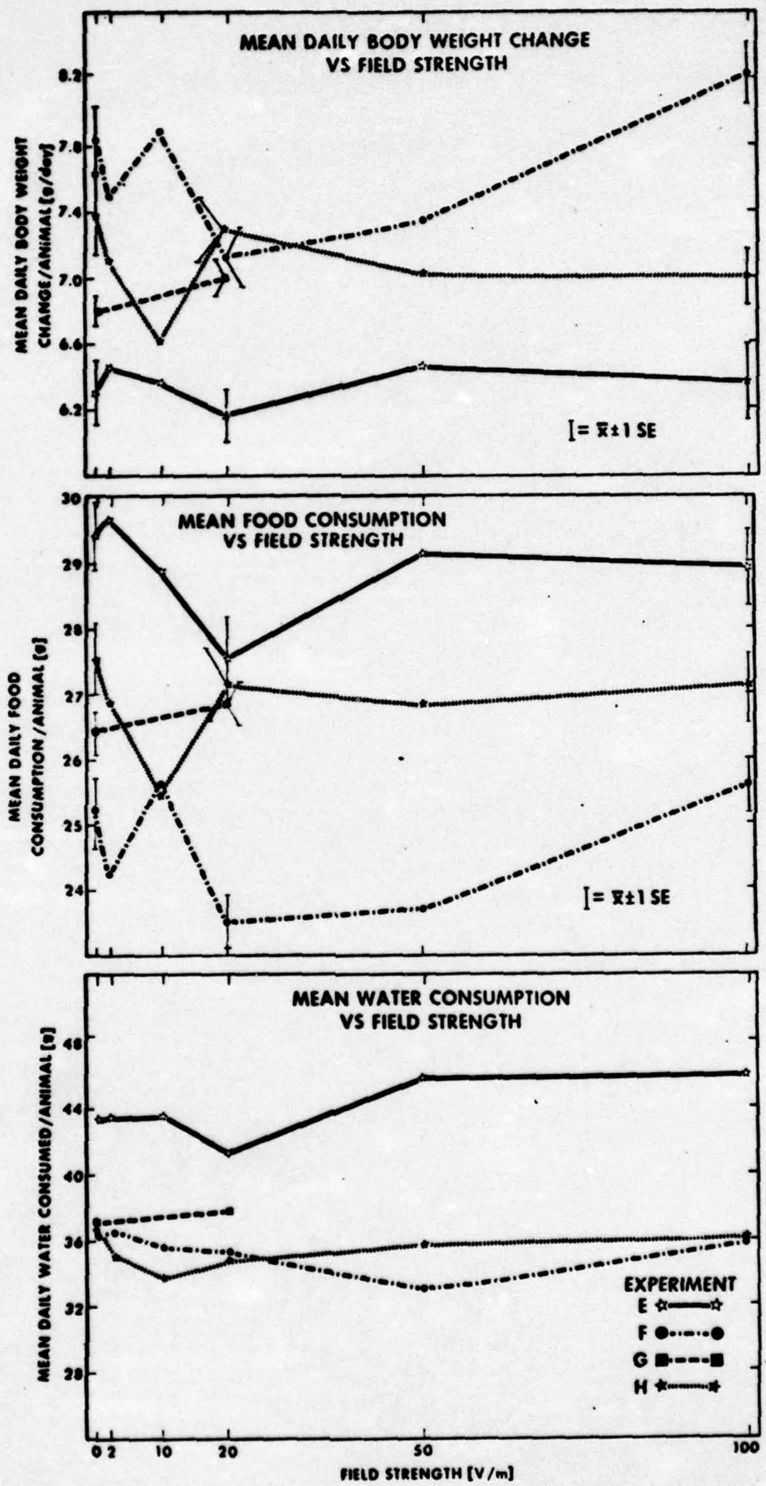


Figure 4. Summary of the Mean Growth, Food and Water Consumption Data Versus 45 Hz Field Strength.

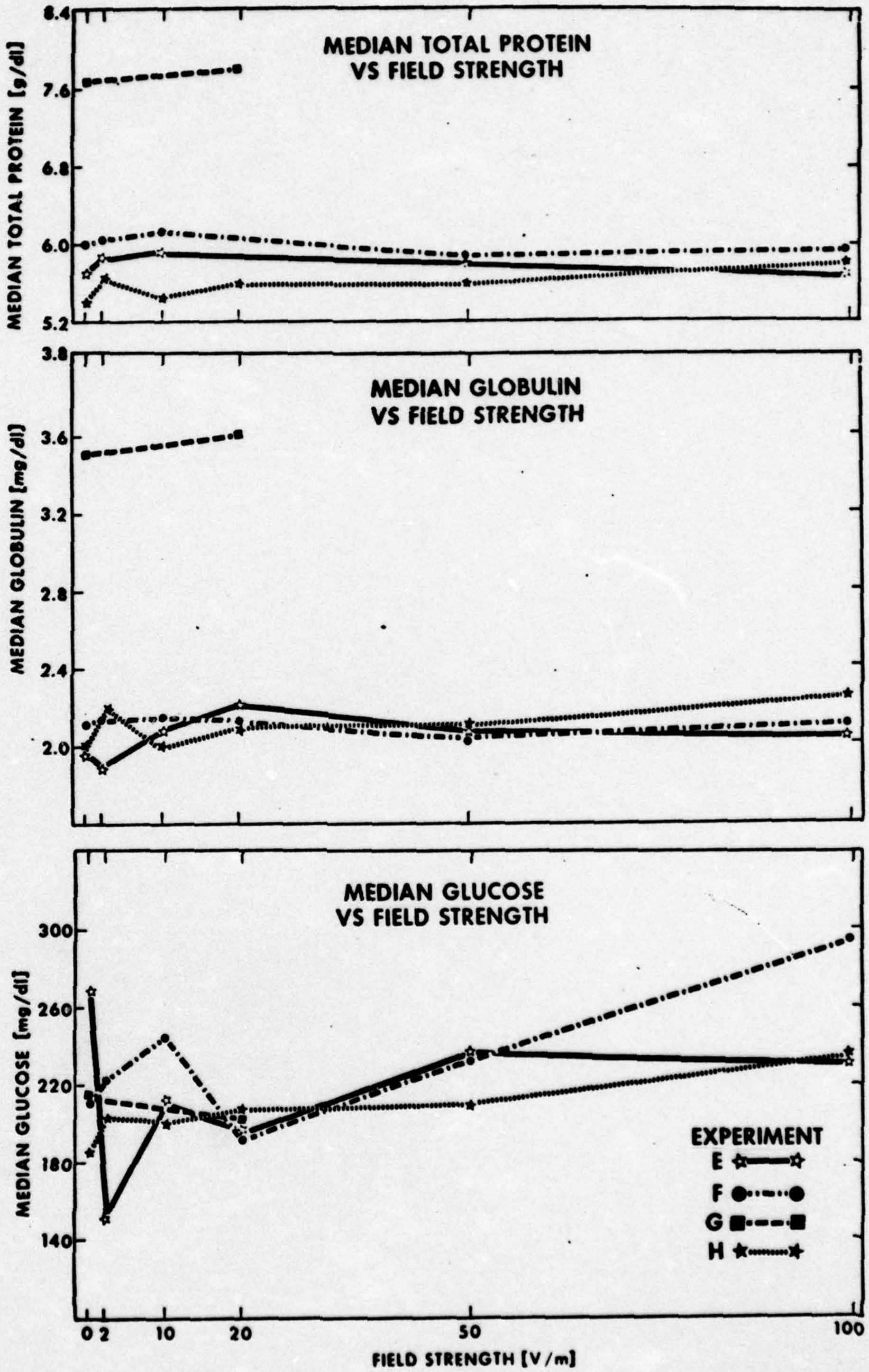


Figure 5. Summary of Median Total Protein, Globulin and Glucose Data Versus 45 Hz Field Strength.

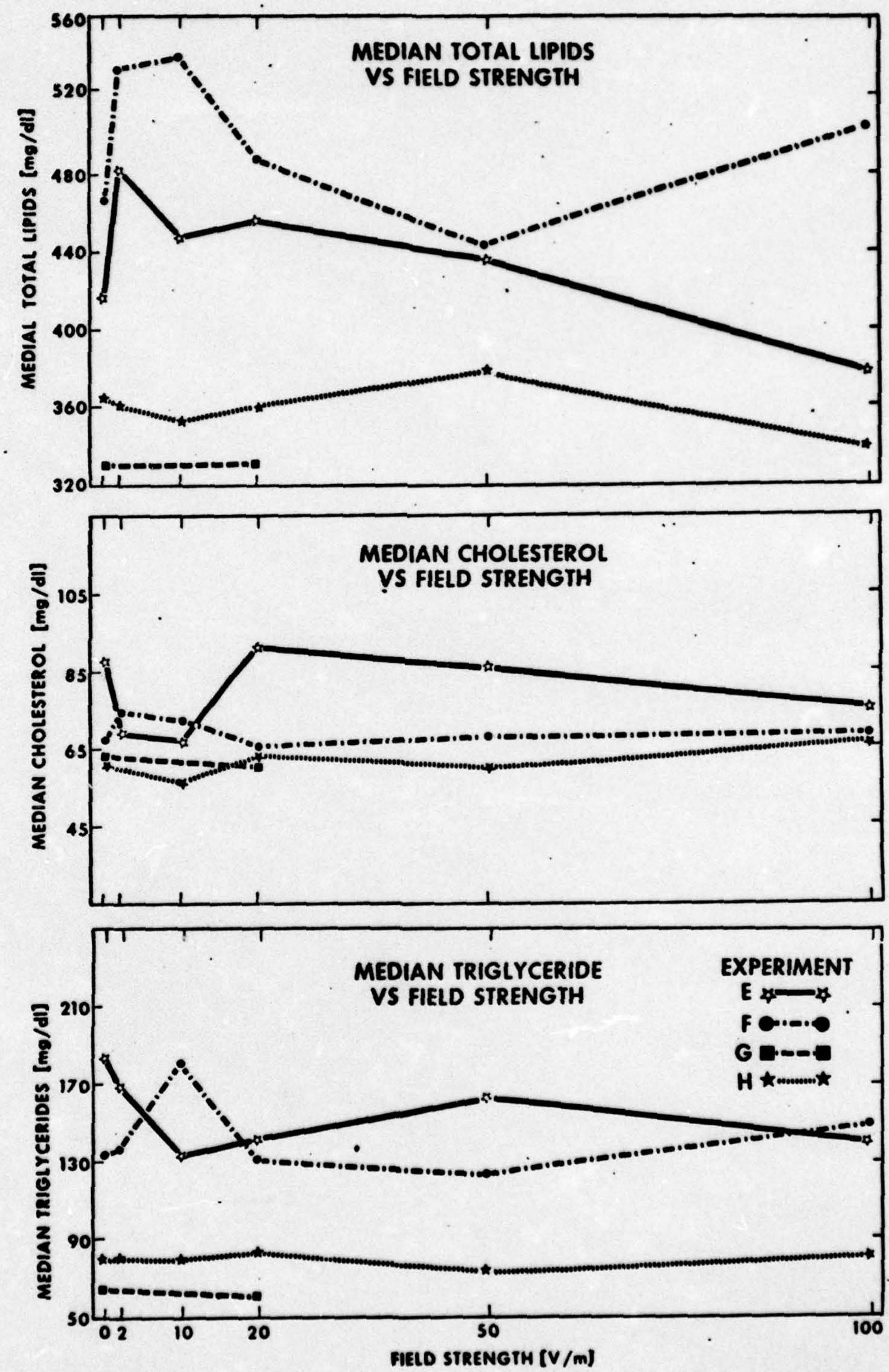


Figure 6. Summary of Median Total Lipid, Cholesterol and Triglyceride Data Versus 45 Hz Field Strength.

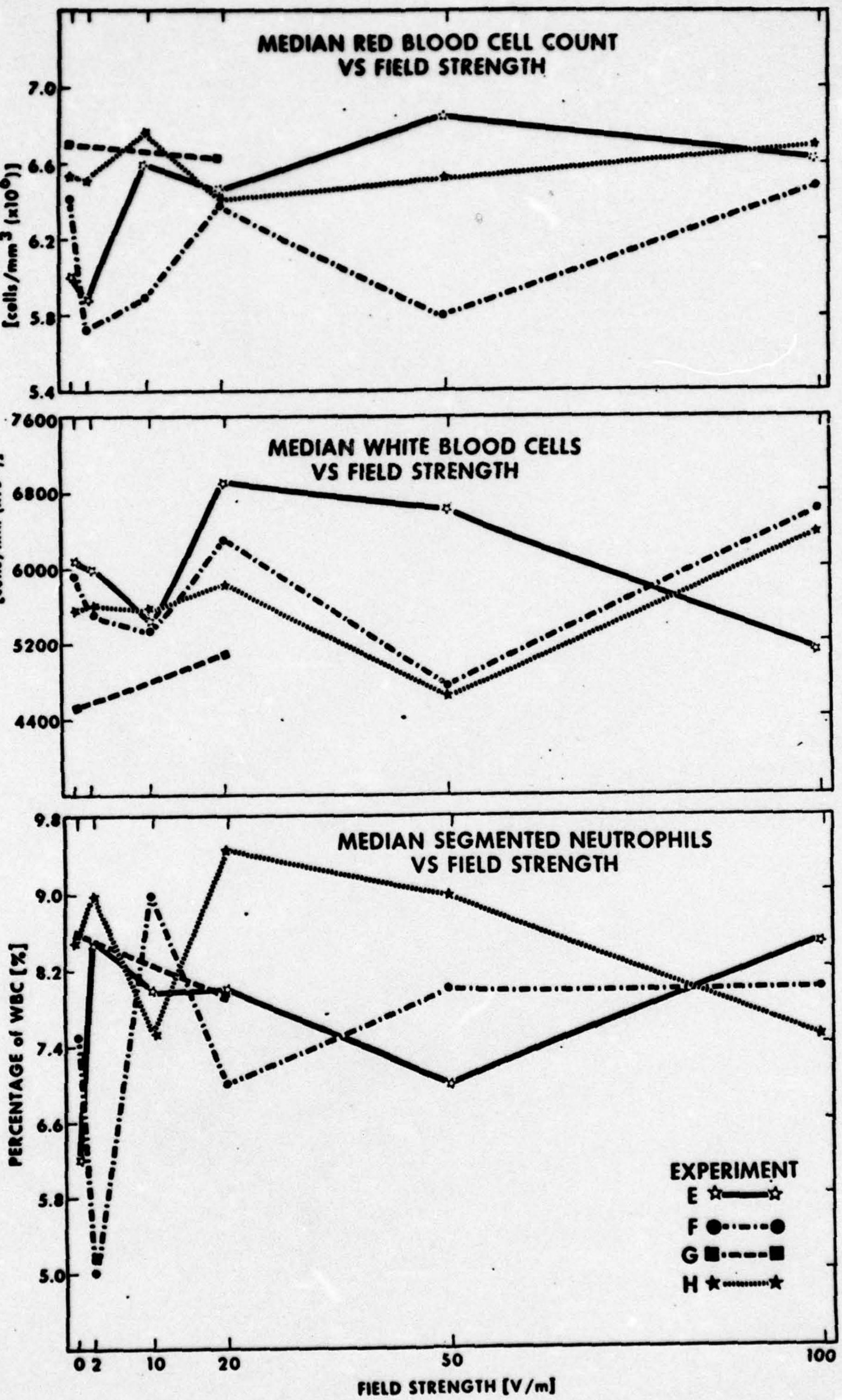


Figure 7. Summary of Median Red Blood Cell, White Blood Cell and Segmented Neutrophil Data Versus 45 Hz Field Strength.

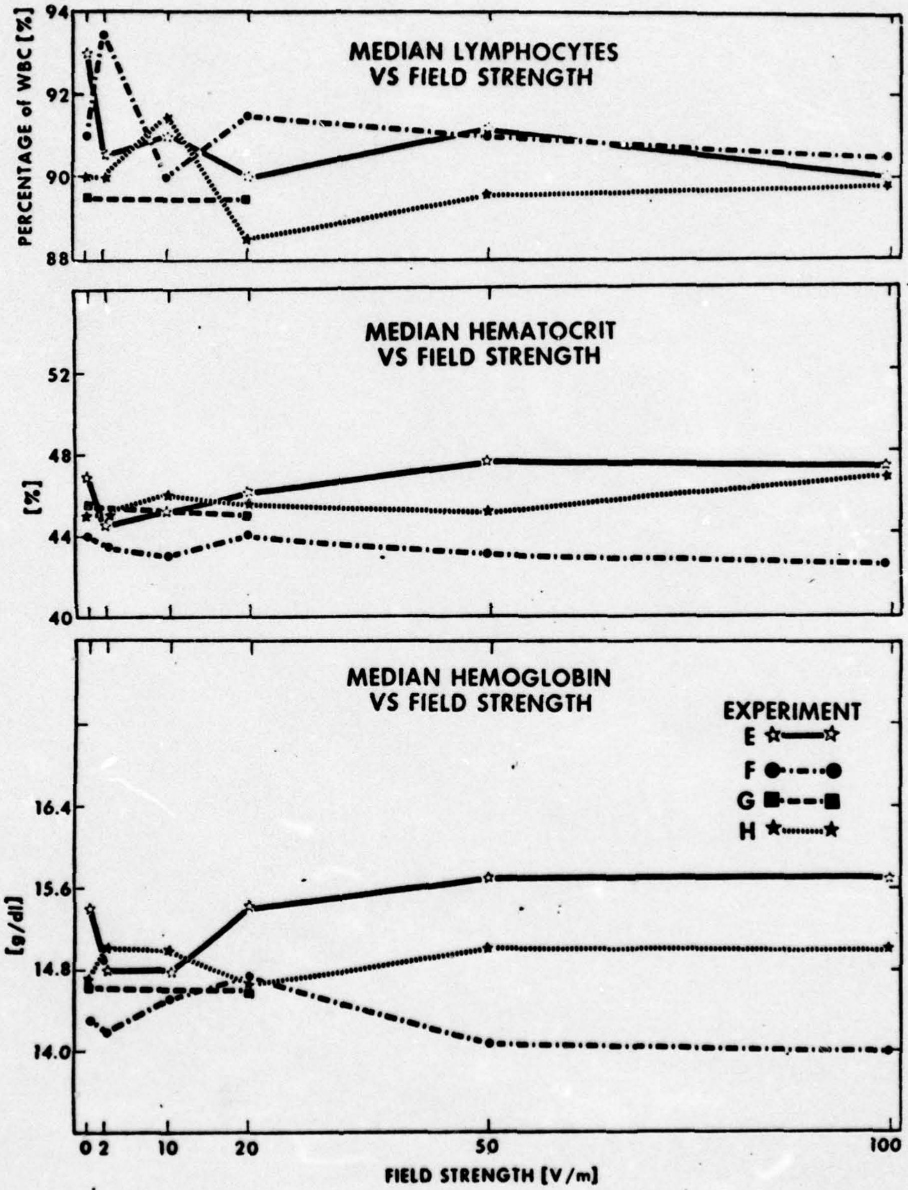


Figure 8. Summary of Median Lymphocyte, Hematocrit and Hemoglobin Data Versus 45 Hz Field Strength.

Table 1. Experimental Design and Animal Usage

EXPOSURE CONDITIONS (V/M)	EXPERIMENTAL GROUP			
	E	F	G	H
Controls	16	16	16,16,16	16
2	16	16		16
10	16	16		16
20	16	16	16,16,16	16
50	16	16		16
100	16	16		16
Animals/Group	96	96	96	96
Total Animals	384			

Table 2. The Number of Animals in Each Group of the 45 Hz and 60 Hz Two-Way Analysis of Experiment G.

FREQUENCY (Hz)		FIELD STRENGTH [V/m(RMS)]				
60 / 45		.21-.42	.53-.84	1.1-1.7	2.6-3.8	Total Animals
F.S. [V/m(RMS)]	0	24	8	12	4	48
	20	12	4	24	8	48
Total Animals		36	12	36	12	

Table 3. **Applied 45 Hz Electric Field Strengths to Each Chamber per Experiment**

EXPOSURE CHAMBER		45 Hz FIELD STRENGTH (V/m(RMS))			
		EXPERIMENT			
NUMBER	POSITION	E	F	G	H
1	U	C	100	20	50
2	L	2	10	C	20
3	U	10	2	20	C
4	L	20	50	C	10
5	U	50	20	C	100
6	L	100	C	20	2

16 animals per chamber
C denotes control group (no 45 Hz fields applied)
U denotes upper chambers
L denotes lower chambers

Table 4. Statistical Summary of the Two-Way Analyses of Variance on 45 Hz and 60 Hz Field Strengths of Experiment G

VARIABLE	FACTOR ONE 45 Hz	FACTOR TWO 60 Hz	INTERACTION
ΔBW/Δ Day	-	-	-
ΔFood/Δ Day	-	*	-
ΔWater/Δ Day	-	**	-

- Not significant ($p > 0.05$)
* Significant ($p < 0.05$)
** Significant ($p < 0.01$

Table 5. Statistical Summary of the Kruskal-Wallis Analysis on 60 Hz Field Strengths of Experiment G

VARIABLE	SIGNIFICANCE
TP	*
GLOB	**
GLY	-
TL	-
CHOL	-
TRIG	-
RBC	*
WBC	-
POLY	-
LYHS	-
HCT	-
HGB	-

- Not significant $(p > 0.05)$
* Significant difference $(p < 0.05)$
** Significant difference $(p < 0.01)$

Table 6. Statistical Summary of the Analysis of Variance of Growth, Food Consumption and Water Consumption

	EXPERIMENT			
VARIABLE	E	F	G	H
Δ BW/Δ Day	-	**	-	-
Δ Food/Δ Day	-	**	-	-
Δ Water/Δ Day	-	-	-	-

- Not significant $(p > 0.05)$
* Significant difference $(p < 0.05)$
** Significant difference $(p < 0.01)$

Table 7. Statistical Summary of the Kruskal-Wallis Analysis of the Blood Biochemistry and Hematology Data

VARIABLE	EXPERIMENT E	F	G	H
TP	-	-	-	*
GLOB	-	-	-	*
GLU	**	*	-	*
TL	**	-	-	-
CHOL	-	-	-	-
TRIG	-	-	-	-
RBC	**	**	-	-
WBC	-	-	-	-
POLY	-	-	-	-
LYHS	-	-	-	-
HCT	**	-	-	-
HGB	*	-	-	-
MONO	within normal limits			
EOS	within normal limits			

- Not significant ($p > 0.05$)
* Significant difference ($p < 0.05$)
** Significant difference ($p < 0.01$)

APPENDIX A

Graphical Summary of Initial Body Weight, Growth, Food and Water Consumption Data Versus Ambient 60 Hz Field Strengths

This appendix graphically summarizes the growth (Figure A-1), initial body weight (Figure A-2), food consumption (Figure A-3), and water consumption (Figure A-4) for experiment G versus the average value per cage for the ambient 60 Hz electric field strength.

Figure A-1.

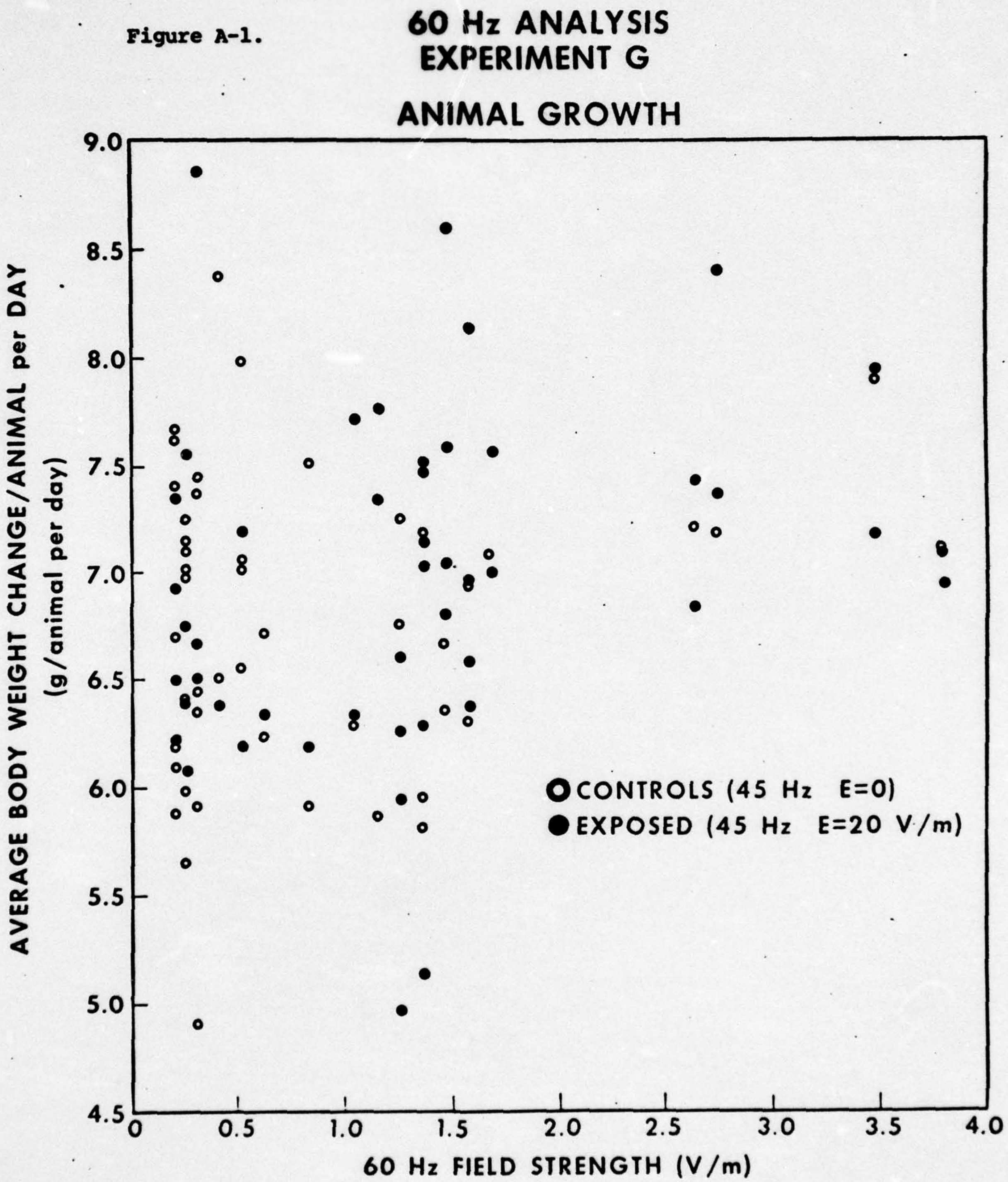

60 Hz ANALYSIS
EXPERIMENT G
ANIMAL GROWTH
AVERAGE BODY WEIGHT CHANGE/ANIMAL per DAY
(g/animal per day)
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
60 Hz FIELD STRENGTH (V/m)
CONTROLS (45 Hz E=0)
EXPOSED (45 Hz E=20 V/m)

Figure A-2.

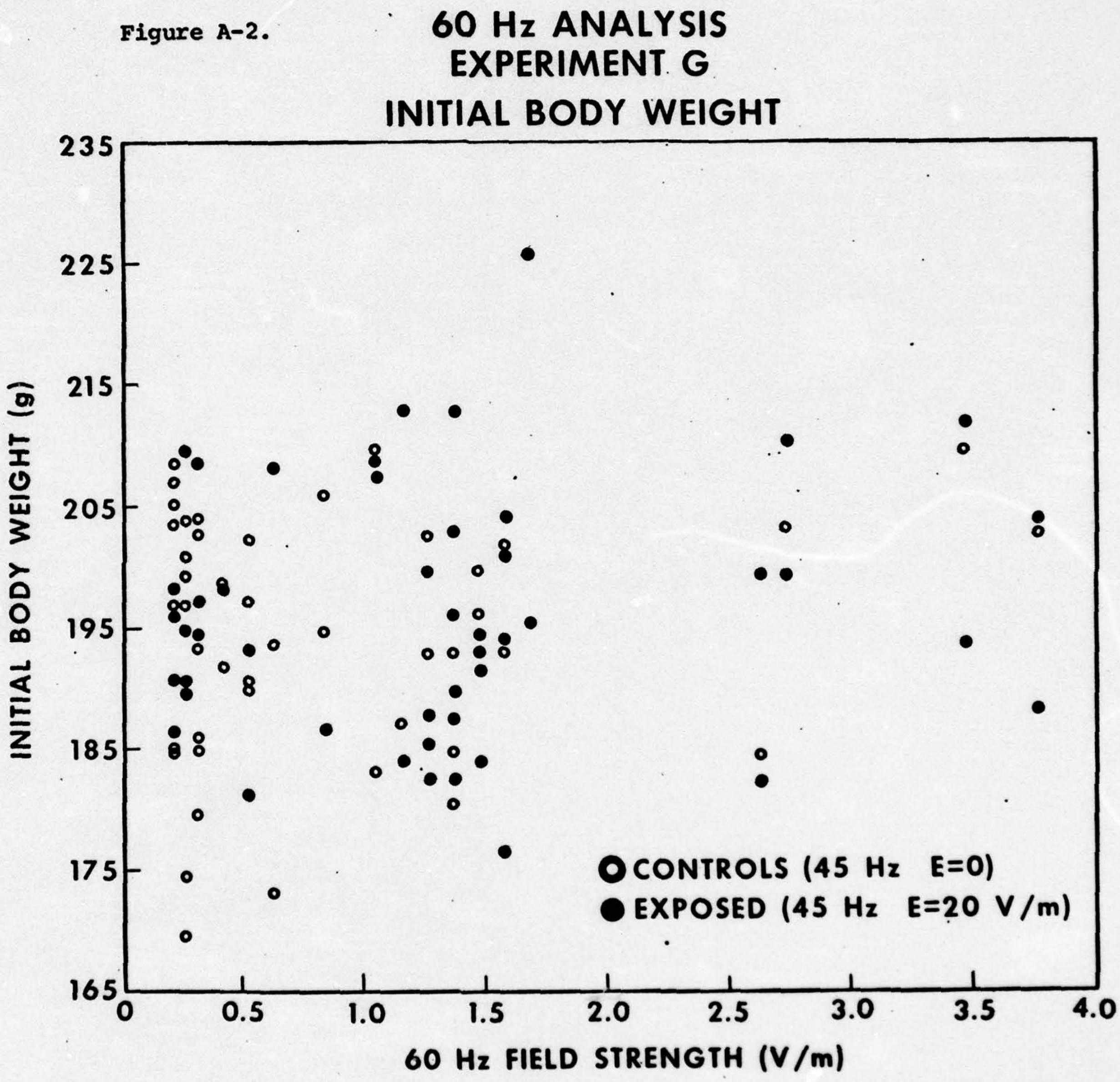

60 Hz ANALYSIS
EXPERIMENT G
INITIAL BODY WEIGHT
235
225
215
205
195
185
175
165
INITIAL BODY WEIGHT (g)
0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
60 Hz FIELD STRENGTH (V/m)
CONTROLS (45 Hz E=0)
EXPOSED (45 Hz E=20 V/m)

Figure A-3.

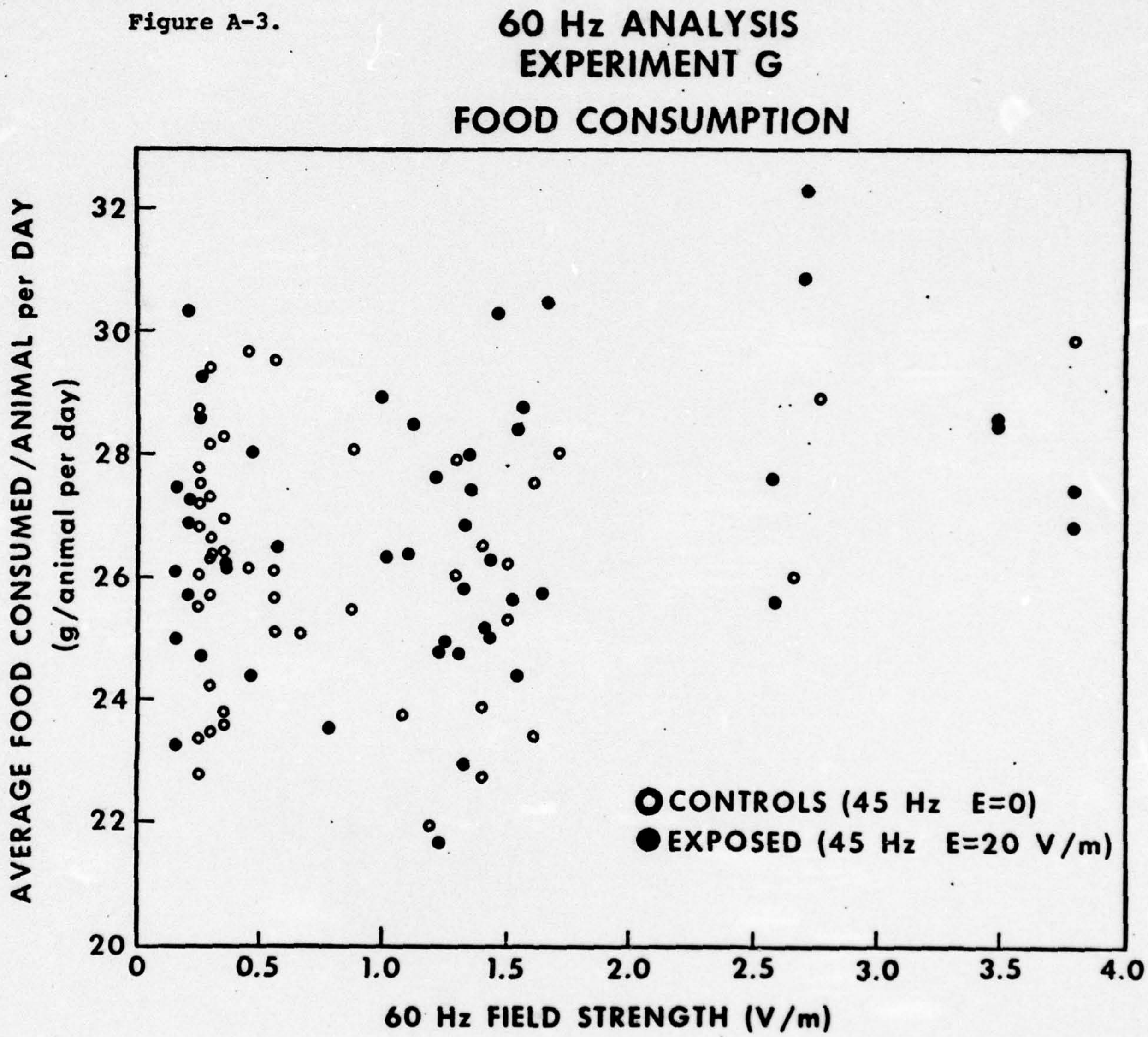
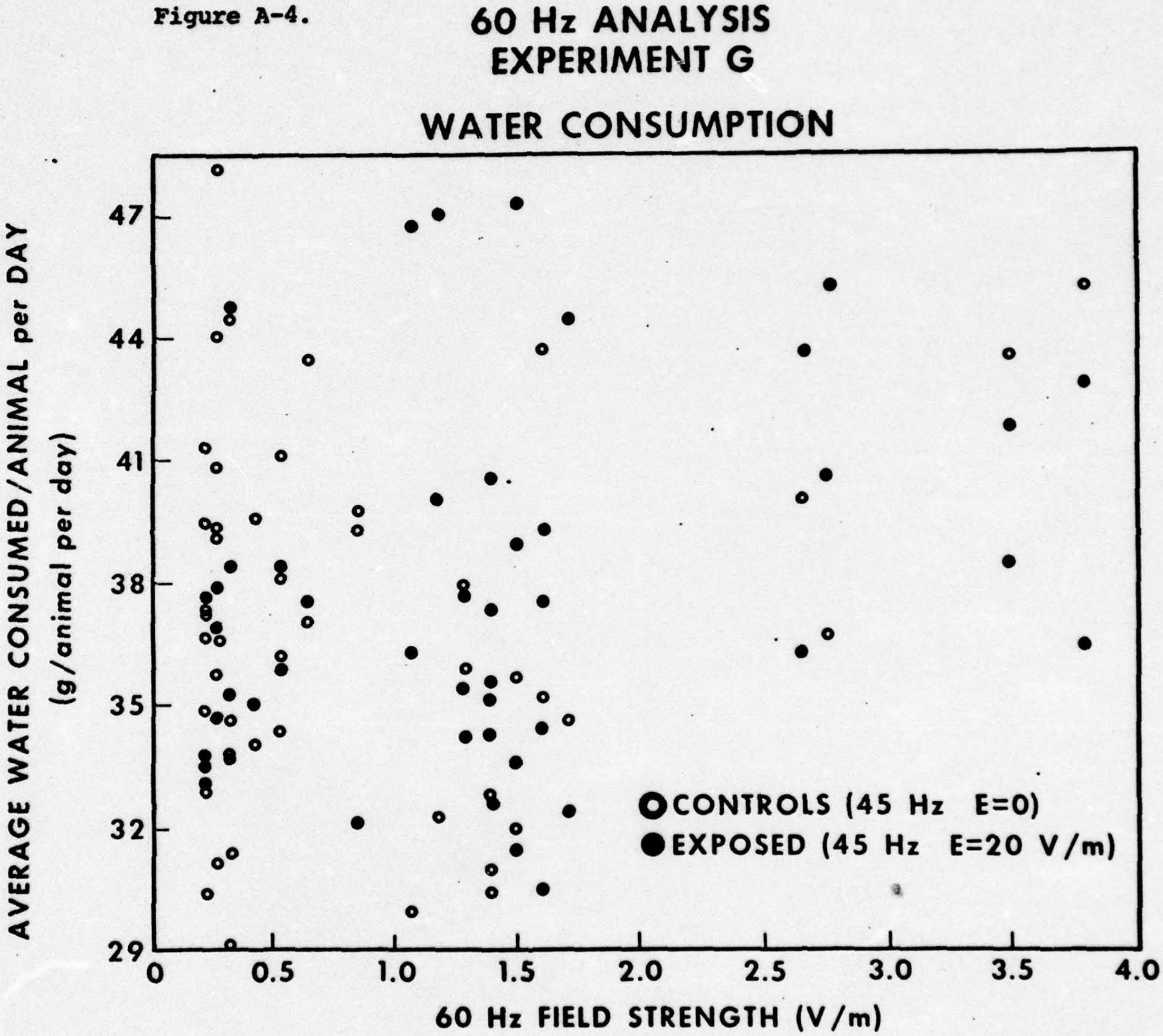

60 Hz ANALYSIS
EXPERIMENT G
FOOD CONSUMPTION
AVERAGE FOOD CONSUMED/ANIMAL per DAY
(g/animal per day)
32
30
28
26
24
22
20
0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
CONTROLS (45 Hz E=0)
EXPOSED (45 Hz E=20 V/m)
60 Hz FIELD STRENGTH (V/m)

Figure A-4.


60 Hz ANALYSIS
EXPERIMENT G
WATER CONSUMPTION
AVERAGE WATER CONSUMED/ANIMAL per DAY
(g/animal per day)
47
44
41
38
35
32
29
0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
60 Hz FIELD STRENGTH (V/m)
CONTROLS (45 Hz E=0)
EXPOSED (45 Hz E=20 V/m)

APPENDIX B

Daily Summary of Body Weight, Growth and Cumulative and Daily Consumption of Food and Water

The following seven Tables (B-1 through B-7) summarize the actual raw growth and consumption data for each experimental group of the four experiments, E, F, G, and H. In addition, the date for day during which data was obtained and a summary of the temperature and relative humidity history are provided.

The field strength and chamber position (either upper or lower) for any group can be obtained from Table 3 of the text.

The headings for each column are defined, proceeding from left to right, as:

DATE: date these data were obtained; expressed as day/month/last digit of the year

DAY: the number of days these animals have been exposed

TEMP: the average $\pm$ the range of room temperature (°F), taken over the interval from the previous data day to this day

HUMIDITY: the average $\pm$ the range of relative humidity (%RH), taken over the interval from the previous data day to this day

N: the number of animals in each group, either 16 or 48, or when an animal's food or water consumption could not be accurately measured due to an accident (e.g., bottle was spilled), it then becomes the smallest number of animals used for any one of the calculations for this date

BODY WEIGHT:

- XBAR the average mass (g) per animal for this group
- SD the standard deviation of XBAR (g)

CHG.BODY WT:

XBAR	Average change in mass per day (g/day) per animal for this group, taken over the interval from the previous data day to this day
SD	the standard deviation of XBAR (g)

FOOD CONSUMED AND WATER CONSUMED:

XBAR	average food (water) consumed per day (g/day) per animal for this group, taken over the interval from the previous data day to this day
SD	standard deviation of XBAR (g/day)
TOTAL TO DATE:	average food (water) cumulative food consumed (g) per animal from day zero to this day
SD	standard deviation TOTAL TO DATE (g)
SUPERSCRIPT*:	this symbol is used to note that the data from all animals could not be used; there n = 16 for experiments E, F and H or n = 48 for experiment G. Further information is provided in the next paragraph.

It was necessary to delete three animals from experiment F of these experiments because they accidently went without water over a weekend. This accident occurred early in this experiment, and these animals resumed normal drinking, eating and growth values; therefore, these animals were not deleted from the biochemical and hematological analyses. Because one animal was deleted from group two (see Table B-3) and two animals were deleted from group six (see Table B-4), asterisks indicate that less than the normal number of animals was used for each day.

Table B-1.

EXPERIMENT 2

GROUP 1

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	SD
7/ 4/5	0	0+0-0	0+ 0- 0	16	221.93	12.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/ 4/5	2	72+0-0	28+ 0- 1	16	237.80	13.17	7.93	1.18	26.40	1.51	52.80	3.03	42.40	4.93	84.96	9.86
11/ 4/5	4	72+0-0	34+ 1- 2	16	253.60	14.69	7.94	1.90	26.30	1.08	105.57	5.97	44.51	5.42	173.97	20.10
14/ 4/5	7	72+0-1	30+ 1- 2	16	280.35	16.00	8.89	1.83	28.19	1.79	190.14	9.59	43.15	6.40	303.43	38.46
16/ 4/5	9	72+0-0	42+ 2- 1	16	296.76	16.74	8.20	1.13	28.75	1.64	247.64	12.33	44.18	5.87	391.78	49.94
18/ 4/5	11	71+1-0	42+ 6- 2	15	311.44	19.54	7.34	3.98	28.08	1.85	303.08*	14.67	42.65	6.10	476.53*	60.95
21/ 4/5	14	71+0-0	40+ 0- 2	16	332.85	23.51	6.87	1.67	29.80	2.50	393.43	19.97	43.14	6.63	605.94	80.45
23/ 4/5	16	72+0-0	42+ 6- 2	16	342.55	26.43	5.25	3.21	30.57	2.73	454.58	24.20	44.05	7.14	694.04	94.02
25/ 4/5	18	70+2-0	57+ 0- 1	16	355.81	26.56	6.63	2.97	31.43	3.25	517.44	29.60	43.63	7.08	781.31	106.20
28/ 4/5	21	71+0-0	43+ 0- 3	16	369.77	28.63	4.65	1.63	30.67	2.07	609.44	34.59	43.96	6.92	913.20	126.12
30/ 4/5	23	71+0-0	53+ 0- 1	16	379.23	29.14	4.73	1.67	31.66	3.99	672.77	39.35	43.96	6.99	1001.12	139.37
2/ 5/5	25	71+0-0	54+ 0- 1	16	385.19	28.20	2.98	1.48	29.92	3.22	734.07	44.69	42.46	6.36	1086.04	151.56

GROUP 2

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	SD
7/ 4/5	0	0+0-0	0+ 0- 0	16	217.44	14.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/ 4/5	2	72+0-0	28+ 0- 1	16	233.93	14.50	8.24	1.02	28.32	3.99	56.64	7.98	42.23	6.13	84.45	12.27
11/ 4/5	4	72+0-0	34+ 1- 2	16	247.26	14.84	6.66	3.31	25.96	1.88	108.56	9.50	43.06	4.87	170.56	18.62
14/ 4/5	7	72+0-1	30+ 1- 2	16	273.93	21.75	8.89	5.08	28.33	6.86	193.54	22.44	41.51	11.95	295.98	50.74
16/ 4/5	9	72+0-0	42+ 2- 1	16	292.08	19.19	9.08	3.26	29.74	2.99	253.01	26.59	43.61	6.29	382.29	58.08
18/ 4/5	11	71+1-0	42+ 6- 2	13	307.34	18.56	7.63	1.67	26.32	9.44	305.65*	24.08	42.86	5.40	468.36*	65.26
21/ 4/5	14	71+0-0	40+ 0- 2	16	329.45	19.23	7.37	1.04	31.50	2.67	400.14	24.46	43.27	5.84	598.16	80.90
23/ 4/5	16	72+0-0	42+ 6- 2	16	343.56	18.90	7.05	1.58	30.67	2.05	461.48	28.46	44.95	6.82	688.06	91.72
25/ 4/5	18	70+2-0	57+ 0- 1	16	353.24	18.07	-4.84	4.00	30.61	4.58	522.71	29.03	42.03	9.34	772.13	100.26
28/ 4/5	21	71+0-0	43+ 0- 3	16	370.27	19.22	5.68	1.87	32.14	2.91	619.12	32.37	45.14	8.37	907.54	120.98
30/ 4/5	23	71+0-0	53+ 0- 1	16	378.10	20.01	3.91	1.51	31.17	2.97	681.46	37.06	45.73	10.28	998.99	135.74
2/ 5/5	25	71+0-0	54+ 0- 1	16	384.53	20.60	3.21	1.55	29.98	2.54	741.41	38.49	41.87	6.14	1087.34	153.58

GROUP 3

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	SD
7/ 4/5	0	0+0-0	0+ 0- 0	16	213.76	9.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/ 4/5	2	72+0-0	29+ 0- 1	16	226.09	17.35	6.57	6.24	24.81	4.08	49.63	8.17	38.33	9.65	76.67	19.30
11/ 4/5	4	72+0-0	34+ 1- 2	16	244.11	12.14	8.61	3.93	25.64	1.52	100.90	8.91	43.35	3.63	163.36	10.30
14/ 4/5	7	72+0-1	30+ 1- 2	16	270.94	12.72	8.94	1.29	27.72	1.45	184.06	11.22	42.03	3.66	289.45	25.36
16/ 4/5	9	72+0-0	42+ 2- 1	16	286.01	13.34	7.93	1.77	28.53	3.34	241.13	16.64	39.55	12.61	368.54	42.41
18/ 4/5	11	71+1-0	42+ 6- 2	16	301.31	14.39	7.25	1.62	27.84	1.04	296.02	18.20	41.45	4.00	451.44	40.93
21/ 4/5	14	71+0-0	40+ 0- 2	16	322.71	16.20	7.13	1.16	29.17	1.94	384.34	22.30	41.09	3.77	577.11	57.69
23/ 4/5	16	72+0-0	42+ 6- 2	16	335.13	16.65	6.21	1.43	29.30	2.49	443.10	25.79	42.09	3.47	662.89	63.15
25/ 4/5	18	70+2-0	57+ 0- 1	16	346.80	17.19	5.80	1.09	28.81	2.41	500.72	29.60	41.19	3.53	745.27	67.07
28/ 4/5	21	71+0-0	43+ 0- 3	16	357.84	22.05	3.65	3.23	28.10	4.03	585.03	41.32	40.02	8.53	865.33	83.73
30/ 4/5	23	71+0-0	53+ 0- 1	16	366.15	20.05	4.15	2.77	29.72	2.79	644.46	44.50	42.40	3.94	950.14	88.61
2/ 5/5	25	71+0-0	54+ 0- 1	16	373.73	20.60	3.75	1.04	28.34	1.61	701.31	46.79	41.07	4.20	1033.88	95.05

Table B-2.

EXPERIMENT 2

GROUP 4

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	FOOD CONSUMED SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	WATER CONSUMED SD
7/ 4/5	0	0+0-0	0+ 0- 0	16	216.90	12.34	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00
9/ 4/5	2	72+0-0	20+ 0- 1	16	230.40	19.97	6.75	6.86	25.49	4.86	50.90	9.73	39.93	10.20	79.86	20.40
11/ 4/5	4	72+0-0	34+ 1- 2	16	247.82	10.65	8.31	4.73	25.32	4.05	101.62	14.05	43.52	9.20	166.89	29.33
14/ 4/5	7	72+0-1	30+ 1- 2	16	273.87	19.41	8.95	1.18	27.71	2.15	184.76	18.84	43.82	5.72	295.96	43.27
16/ 4/5	9	72+0-0	42+ 2- 1	16	289.64	19.40	7.88	1.05	27.60	2.80	240.13	22.39	43.40	5.72	382.91	53.57
18/ 4/5	11	71+1-0	42+ 6- 2	16	305.87	19.56	8.12	1.29	28.91	2.23	297.95	26.31	44.01	5.19	470.94	63.00
21/ 4/5	14	71+0-0	40+ 0- 2	16	325.95	20.30	6.69	1.20	28.75	2.29	384.19	32.70	43.70	6.04	602.03	82.60
23/ 4/5	16	72+0-0	42+ 6- 2	16	338.75	21.54	6.40	1.53	29.82	3.30	443.82	37.14	44.05	5.30	690.13	92.92
25/ 4/5	18	70+2-0	57+ 0- 1	16	352.23	22.72	6.74	1.77	29.19	2.67	502.19	42.00	43.86	4.95	777.84	102.33
28/ 4/5	21	71+0-0	43+ 0- 3	16	366.74	23.84	4.84	1.58	29.69	2.63	591.26	48.77	43.87	5.87	909.45	119.22
30/ 4/5	23	71+0-0	53+ 0- 1	16	374.33	24.58	3.79	1.32	30.92	3.15	653.10	51.97	44.55	5.37	998.54	129.23
2/ 5/5	25	71+0-0	54+ 0- 1	16	382.59	24.22	4.13	2.20	28.36	2.23	710.90	55.99	44.14	6.12	1086.83	140.04

GROUP 5

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	FOOD CONSUMED SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	WATER CONSUMED SD
7/ 4/5	0	0+0-0	0+ 0- 0	16	214.47	12.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/ 4/5	2	72+0-0	20+ 0- 1	16	231.05	13.67	8.29	1.29	25.57	1.88	51.13	3.75	42.30	4.52	84.60	9.03
11/ 4/5	4	72+0-0	34+ 1- 2	16	247.33	14.19	8.14	1.75	26.82	2.13	103.18	7.60	42.13	13.19	168.85	30.24
14/ 4/5	7	72+0-1	30+ 1- 2	16	273.49	17.30	8.72	1.50	27.32	2.71	185.14	15.43	43.47	5.24	299.26	41.99
16/ 4/5	9	72+0-0	42+ 2- 1	16	290.45	19.87	8.48	1.82	28.20	2.94	241.54	20.90	43.62	4.92	386.51	50.30
18/ 4/5	11	71+1-0	42+ 6- 2	16	305.40	19.23	7.52	2.82	28.55	1.92	298.64	22.69	44.40	4.59	475.31	56.74
21/ 4/5	14	71+0-0	40+ 0- 2	16	325.90	22.47	6.81	1.77	29.24	3.02	386.37	30.95	45.94	5.91	613.12	72.14
23/ 4/5	16	72+0-0	42+ 6- 2	16	339.37	24.12	6.73	1.48	29.50	2.36	445.37	34.99	45.87	4.18	704.85	79.35
25/ 4/5	18	70+2-0	57+ 0- 1	16	352.06	24.70	6.34	1.78	29.64	2.20	504.66	37.63	45.71	5.33	796.26	88.24
28/ 4/5	21	71+0-0	43+ 0- 3	15	365.54	26.20	4.50	0.92	30.08	2.44	595.04 *	43.24	44.06	4.64	928.44 *	99.80
30/ 4/5	23	71+0-0	53+ 0- 1	16	373.27	26.32	3.86	1.24	26.86	12.24	648.76	47.35	44.56	3.70	1017.55	105.76
2/ 5/5	25	71+0-0	54+ 0- 1	16	381.44	27.10	4.09	1.47	29.84	3.29	711.11	54.63	45.02	5.00	1107.60	110.36

GROUP 6

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	FOOD CONSUMED SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	WATER CONSUMED SD
7/ 4/5	0	0+0-0	0+ 0- 0	16	215.45	16.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9/ 4/5	2	72+0-0	20+ 0- 1	16	232.04	16.79	8.30	1.16	26.46	1.98	52.91	3.97	44.85	4.60	89.70	9.21
11/ 4/5	4	72+0-0	34+ 1- 2	16	249.04	19.40	8.50	1.50	27.23	2.12	107.36	7.98	48.62	6.20	186.94	20.08
14/ 4/5	7	72+0-1	30+ 1- 2	16	275.41	20.45	8.79	0.80	28.44	3.00	192.60	16.73	46.85	5.50	327.40	36.17
16/ 4/5	9	72+0-0	42+ 2- 1	16	291.56	22.97	8.07	1.06	29.06	2.77	250.79	21.96	47.11	5.73	421.69	46.56
18/ 4/5	11	71+1-0	42+ 6- 2	14	305.57	23.09	7.01	1.60	28.50	1.92	307.79 *	23.69	47.30	5.99	516.01 *	57.43
21/ 4/5	14	71+0-0	40+ 0- 2	16	329.29	27.07	7.91	1.91	30.69	3.30	399.06	33.29	49.02	7.70	663.07	79.96
23/ 4/5	16	72+0-0	42+ 6- 2	16	341.64	27.33	6.10	1.51	31.55	3.51	462.96	39.53	48.43	8.56	759.99	95.63
25/ 4/5	18	70+2-0	57+ 0- 1	16	352.96	29.97	5.66	2.94	30.23	4.98	523.41	48.39	46.09	11.14	852.17	114.77
28/ 4/5	21	71+0-0	43+ 0- 3	16	366.47	32.90	4.50	1.72	32.21	2.93	620.04	55.12	48.84	9.74	998.67	142.47
30/ 4/5	23	71+0-0	53+ 0- 1	16	374.01	34.03	4.17	1.52	31.62	4.35	683.20	62.44	48.63	10.35	1095.92	161.40
2/ 5/5	25	71+0-0	54+ 0- 1	16	382.06	35.42	4.02	1.45	30.57	4.31	744.41	70.03	45.07	9.43	1186.06	165.27

Table B-3.

EXPERIMENT F

GROUP 1

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	SD
12/ 5/5	0	0+0-0	0+ 0- 0	16	127.24	10.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14/ 5/5	2	72+1-1	62+ 2- 2	16	152.09	12.70	12.43	1.66	18.75	1.52	37.49	3.04	24.98	2.53	49.97	5.07
16/ 5/5	4	72+1-0	56+ 1- 1	16	170.14	12.05	9.03	1.09	21.25	1.94	79.99	6.39	29.44	2.05	108.86	10.08
19/ 5/5	7	72+1-0	57+ 1- 1	16	196.42	15.03	8.76	1.41	22.38	2.00	147.13	12.30	29.25	2.00	196.62	10.33
21/ 5/5	9	73+0-0	50+ 0- 0	16	212.57	15.29	8.07	1.04	24.28	2.29	195.69	16.37	32.46	2.82	261.54	23.03
23/ 5/5	11	74+0-1	63+ 0- 3	16	230.52	16.98	8.98	1.79	24.59	2.27	244.87	20.52	39.28	4.43	340.11	31.03
26/ 5/5	14	75+6-3	70+10-10	16	257.69	18.56	9.06	1.57	25.76	2.54	322.16	27.25	37.06	4.29	451.29	43.53
28/ 5/5	16	70+0-1	64+ 4- 4	16	272.65	20.27	7.48	1.62	25.79	2.13	373.75	30.70	38.77	4.72	528.83	51.80
30/ 5/5	18	72+0-0	50+ 2- 0	16	288.06	20.40	8.11	1.03	26.11	2.08	425.98	34.34	40.45	3.78	609.73	58.40
2/ 6/5	21	72+1-0	61+ 1- 0	15	311.38	22.00	7.51	1.61	27.77	2.10	509.30*	38.77	38.08	4.34	727.54*	60.37
4/ 6/5	23	71+0-1	62+ 1- 0	15	327.02	22.92	7.82	2.56	28.98	3.42	567.33*	41.71	40.98	4.41	809.34*	75.24
6/ 6/5	25	66+2-0	60+ 0- 0	16	338.44	24.57	5.71	1.81	28.48	2.45	624.12	44.80	41.48	4.51	892.29	82.82
9/ 6/5	28	71+0-0	60+ 0- 0	16	357.97	25.58	6.51	0.97	27.89	1.96	707.80	49.64	36.96	4.17	1003.18	92.66

GROUP 2

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	SD
12/ 5/5	0	0+0-0	0+ 0- 0	16	129.65	8.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14/ 5/5	2	72+1-1	62+ 2- 2	15	140.20*	9.37	9.32	3.60	18.18	1.05	36.35*	3.57	25.07	3.45	50.13*	6.66
16/ 5/5	4	72+1-0	56+ 1- 1	15	166.44*	11.22	9.08	2.00	21.35	1.60	79.05*	6.31	30.63	4.20	111.40*	14.12
19/ 5/5	7	72+1-0	57+ 1- 1	15	191.72*	12.00	8.43	2.43	23.08	1.75	148.30*	10.84	29.81	3.57	200.83*	23.98
21/ 5/5	9	73+0-0	50+ 0- 0	15	208.21*	13.04	8.24	2.56	24.82	2.06	197.95*	13.47	32.48	3.58	265.79*	30.45
23/ 5/5	11	74+0-1	63+ 0- 3	15	224.54*	14.60	8.17	2.76	24.89	2.10	247.72*	17.11	40.15	4.06	346.09*	30.70
26/ 5/5	14	75+6-3	70+10-10	15	252.26*	16.12	9.24	2.77	25.70	2.00	324.81*	22.05	37.97	4.52	459.99*	51.30
28/ 5/5	16	70+0-1	64+ 4- 4	15	267.53*	16.57	7.63	2.34	26.26	2.10	377.33*	26.54	38.78	4.23	537.55*	58.87
30/ 5/5	18	72+0-0	58+ 2- 0	15	282.38*	17.97	7.43	2.50	27.68	3.12	432.69*	28.71	43.41	5.51	624.37*	68.95
2/ 6/5	21	72+1-0	61+ 1- 0	14	302.05	18.81	7.22	3.09	28.21	1.92	517.34*	33.61	39.60	6.21	743.17*	83.76
4/ 6/5	23	71+0-1	62+ 1- 0	15	319.69*	20.99	8.55	4.38	29.41	2.59	576.16*	38.12	41.27	4.47	825.71*	91.04
6/ 6/5	25	66+2-0	60+ 0- 0	15	330.33*	22.97	5.32	1.99	28.26	1.73	632.68*	40.99	41.04	3.92	907.79*	98.04
9/ 6/5	28	71+0-0	60+ 0- 0	15	350.70*	23.55	6.79	2.38	28.39	2.70	717.86*	48.12	36.77	5.20	1018.09*	111.71

GROUP 3

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	SD
12/ 5/5	0	0+0-0	0+ 0- 0	16	120.96	12.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14/ 5/5	2	72+1-1	62+ 2- 2	16	142.90	12.37	6.97	1.55	16.51	1.45	33.01	2.09	22.67	3.41	45.34	6.02
16/ 5/5	4	72+1-0	56+ 1- 1	16	159.09	12.70	8.10	1.04	19.79	2.00	72.59	6.49	28.81	2.20	102.95	9.27
19/ 5/5	7	72+1-0	57+ 1- 1	16	184.63	16.13	8.51	1.40	21.39	2.34	136.70	12.05	29.82	2.57	192.40	14.02
21/ 5/5	9	73+0-0	50+ 0- 0	15	200.91	17.26	8.14	0.84	23.82	3.11	184.41*	10.41	32.00	2.73	256.24*	18.82
23/ 5/5	11	74+0-1	63+ 0- 3	16	217.14	18.00	8.12	1.35	24.28	3.70	232.96	25.43	38.59	3.56	333.43	25.40
26/ 5/5	14	75+6-3	70+10-10	16	243.45	21.62	8.77	1.30	24.59	3.00	306.73	33.72	37.16	4.17	444.91	36.42
28/ 5/5	16	70+0-1	64+ 4- 4	16	255.63	22.01	6.09	1.32	25.13	3.12	356.99	39.36	38.15	4.37	521.22	43.94
30/ 5/5	18	72+0-0	50+ 2- 0	16	269.56	24.56	6.97	1.61	25.98	3.72	408.95	46.23	41.49	4.63	604.20	51.05
2/ 6/5	21	72+1-0	61+ 1- 0	16	292.56	27.27	7.60	1.39	26.71	3.36	489.09	55.16	39.03	4.06	721.30	63.06
4/ 6/5	23	71+0-1	62+ 1- 0	16	309.05	30.46	8.25	1.94	26.06	3.06	542.81	59.90	37.60	5.38	796.51	73.00
6/ 6/5	25	66+2-0	60+ 0- 0	16	317.60	30.43	4.20	1.70	26.33	2.96	595.40	64.49	40.51	6.00	877.53	83.44
9/ 6/5	28	71+0-0	60+ 0- 0	16	330.62	34.99	7.01	1.95	27.46	3.30	677.80	72.49	37.40	5.42	989.73	97.51

Table B-4.

EXPERIMENT F

GROUP 4

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	FOOD CONSUMED SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	WATER CONSUMED SD
12/ 5/5	0	0+0-0	0+ 0- 0	16	131.01	12.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14/ 5/5	2	72+1-1	62+ 2- 2	16	141.32	12.09	5.16	1.53	16.35	0.97	32.70	1.94	22.55	2.26	45.11	4.51
16/ 5/5	4	72+1-0	56+ 1- 1	16	158.34	13.77	8.51	1.26	19.81	1.57	72.33	4.75	28.70	1.90	102.60	8.06
19/ 5/5	7	72+1-0	57+ 1- 1	16	182.19	15.46	7.95	1.16	21.53	1.69	136.93	9.10	29.20	2.67	190.26	15.50
21/ 5/5	9	73+0-0	58+ 0- 0	16	198.05	17.38	7.93	1.34	23.00	1.69	182.92	11.65	32.33	3.52	254.92	21.92
23/ 5/5	11	74+0-1	63+ 0- 3	16	212.30	19.06	7.12	1.56	23.62	2.00	230.15	14.52	38.41	4.42	331.74	29.52
26/ 5/5	14	75+6-3	70+10-10	16	238.06	22.41	8.59	1.39	24.27	2.23	302.95	20.14	37.56	4.93	444.41	43.06
28/ 5/5	16	70+0-1	64+ 4- 4	16	251.92	23.42	6.93	1.24	24.46	2.14	351.87	24.03	38.21	5.85	520.83	53.76
30/ 5/5	18	72+0-0	58+ 2- 0	16	266.42	23.80	7.25	1.27	25.02	1.98	401.91	27.32	41.17	5.33	603.16	63.67
2/ 6/5	21	72+1-0	61+ 1- 0	16	289.49	25.00	7.69	1.01	25.56	2.71	478.57	34.81	37.79	5.35	716.53	75.65
4/ 6/5	23	71+0-1	62+ 1- 0	16	305.85	25.61	8.18	1.65	26.33	2.37	531.23	36.60	36.89	5.43	790.31	83.21
6/ 6/5	25	66+2-0	60+ 0- 0	16	316.38	25.23	5.26	1.40	26.57	1.91	584.36	39.90	41.02	5.14	872.36	91.54
9/ 6/5	28	71+0-0	60+ 0- 0	16	336.71	25.20	6.78	0.96	26.78	1.03	664.69	44.73	37.17	4.57	983.86	103.55

GROUP 5

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	FOOD CONSUMED SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	WATER CONSUMED SD
12/ 5/5	0	0+0-0	0+ 0- 0	16	132.90	11.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14/ 5/5	2	72+1-1	62+ 2- 2	16	146.89	11.75	6.99	2.59	17.07	1.15	34.14	2.30	22.54	1.50	45.08	3.01
16/ 5/5	4	72+1-0	56+ 1- 1	15	163.86	12.22	8.49	1.12	20.10	1.39	74.37*	4.27	28.09	1.92	101.26*	6.04
19/ 5/5	7	72+1-0	57+ 1- 1	16	188.34	14.23	8.16	1.15	21.34	1.45	138.38	8.07	28.15	1.91	185.72	11.19
21/ 5/5	9	73+0-0	58+ 0- 0	16	203.86	14.46	7.76	1.31	23.62	2.02	185.63	11.25	30.83	2.24	247.38	14.87
23/ 5/5	11	74+0-1	63+ 0- 3	16	219.10	15.92	7.62	1.46	22.85	2.15	231.33	14.00	36.70	3.65	320.79	21.07
26/ 5/5	14	75+6-3	70+10-10	16	245.74	18.45	8.88	1.57	24.02	2.01	303.39	20.24	35.65	3.58	427.73	30.86
28/ 5/5	16	70+0-1	64+ 4- 4	16	257.33	19.65	5.79	1.65	24.01	2.15	351.41	24.10	35.89	3.85	499.48	37.93
30/ 5/5	18	72+0-0	58+ 2- 0	16	271.52	20.20	7.09	1.06	24.42	2.46	400.25	28.54	38.04	3.73	575.56	44.76
2/ 6/5	21	72+1-0	61+ 1- 0	16	291.54	20.94	6.67	1.11	25.25	2.10	475.99	34.40	35.06	2.92	680.16	52.09
4/ 6/5	23	71+0-1	62+ 1- 0	16	306.24	21.98	7.35	1.68	25.57	2.11	527.13	38.30	33.20	2.68	749.56	57.31
6/ 6/5	25	66+2-0	60+ 0- 0	16	315.63	20.87	4.72	1.36	25.22	2.01	577.57	42.00	35.43	3.37	820.42	62.74
9/ 6/5	28	71+0-0	60+ 0- 0	16	332.43	21.85	5.38	1.35	25.40	2.01	653.77	47.07	32.30	3.04	917.32	69.86

GROUP 6

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	FOOD CONSUMED SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	WATER CONSUMED SD
12/ 5/5	0	0+0-0	0+ 0- 0	16	129.04	12.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14/ 5/5	2	72+1-1	62+ 2- 2	14	144.94*	11.29	7.95	3.89	17.51	1.19	35.03*	2.22	23.66	3.93	47.31*	7.32
16/ 5/5	4	72+1-0	56+ 1- 1	14	163.54*	11.35	9.30	3.74	20.97	1.54	76.97*	4.75	29.05	3.69	105.42*	13.72
19/ 5/5	7	72+1-0	57+ 1- 1	14	188.42*	11.07	8.30	3.43	22.58	1.63	144.71*	7.92	29.53	3.71	194.02*	23.20
21/ 5/5	9	73+0-0	58+ 0- 0	14	205.28*	13.07	8.43	3.51	23.82	1.66	192.35*	10.43	32.06	3.50	258.14*	29.43
23/ 5/5	11	74+0-1	63+ 0- 3	14	221.01*	14.50	7.86	3.39	24.53	1.71	241.41*	12.67	38.74	5.20	335.61*	38.55
26/ 5/5	14	75+6-3	70+10-10	14	249.14*	17.99	9.38	3.95	25.91	2.61	319.13*	19.13	37.95	5.01	449.46*	51.62
28/ 5/5	16	70+0-1	64+ 4- 4	14	264.25*	20.35	7.56	3.47	26.10	2.59	371.32*	23.55	38.81	5.01	527.08*	60.22
30/ 5/5	18	72+0-0	58+ 2- 0	13	279.86*	21.04	7.00	3.42	26.81	3.35	421.94*	29.14	42.93	6.45	611.78*	70.56
2/ 6/5	21	72+1-0	61+ 1- 0	14	301.88*	23.59	8.01	3.50	28.08	2.67	509.10*	36.04	40.39	5.89	737.94*	84.00
4/ 6/5	23	71+0-1	62+ 1- 0	14	318.96*	26.30	7.54	3.75	28.50	2.67	566.17*	40.63	38.35	5.97	809.65*	89.03
6/ 6/5	25	66+2-0	60+ 0- 0	14	329.69*	27.12	5.37	2.75	27.50	2.56	621.17*	44.91	41.35	6.26	892.34*	99.72
9/ 6/5	28	71+0-0	60+ 0- 0	14	349.04*	29.32	6.45	2.07	28.33	2.54	706.15*	51.26	37.69	6.47	1005.40*	114.03

Table B-5.

EXPERIMENT G

GROUP 1

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	FOOD CONSUMED SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	WATER CONSUMED SD
23/ 6/5	0	0+0-0	0+ 0- 0	48	196.07	10.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25/ 6/5	2	73+0-0	63+ 0- 1	48	213.78	11.50	8.86	1.20	23.53	1.76	47.06	3.53	33.44	3.65	66.88	7.30
27/ 6/5	4	72+0-0	62+ 0- 1	48	230.05	12.88	8.14	1.20	23.87	1.85	94.80	6.98	35.21	3.83	137.38	14.52
30/ 6/5	7	72+1-0	63+ 0- 1	48	255.68	14.05	8.54	1.05	24.86	2.04	169.39	12.83	34.84	3.82	241.82	25.44
2/ 7/5	9	70+1-0	62+ 0- 0	48	273.68	15.58	9.00	1.49	26.60	2.03	222.60	16.59	37.04	3.58	315.90	31.99
3/ 7/5	10	72+1-1	62+ 2- 0	48	278.62	16.37	4.95	2.34	25.88	2.15	248.47	18.45	40.08	4.45	355.98	35.56
7/ 7/5	14	71+1-0	62+ 0- 0	48	311.28	18.05	8.16	1.13	27.27	2.47	357.56	27.41	35.90	3.97	499.59	49.92
9/ 7/5	16	72+1-0	63+ 1- 0	48	327.29	19.68	8.00	1.45	27.89	2.93	413.35	32.49	40.94	5.33	581.48	59.68
11/ 7/5	18	72+0-1	62+ 0- 0	48	336.41	21.55	4.56	1.63	27.70	3.90	468.76	38.01	41.97	5.87	665.41	69.32
14/ 7/5	21	72+0-0	63+ 1- 1	48	355.33	23.21	6.31	1.26	27.98	3.01	552.69	45.88	40.65	6.27	787.36	85.13
16/ 7/5	23	73+1-0	63+ 1- 0	48	367.55	24.77	6.11	1.57	29.02	3.00	610.74	51.34	39.01	5.36	865.39	95.12
18/ 7/5	25	74+0-1	63+ 0- 0	48	375.89	24.89	4.17	1.61	27.44	2.43	665.61	55.66	38.16	5.70	941.70	104.79
21/ 7/5	28	74+0-0	64+ 0- 0	49	390.08	27.31	5.00	1.48	28.34	2.62	750.63	61.76	37.27	5.07	1053.51	118.90

GROUP 2

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	FOOD CONSUMED SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	WATER CONSUMED SD
23/ 6/5	0	0+0-0	0+ 0- 0	48	194.55	9.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25/ 6/5	2	73+0-0	63+ 0- 1	47	211.13	11.57	8.29	1.35	22.72	1.92	45.44*	3.79	32.73	3.79	65.16*	7.29
27/ 6/5	4	72+0-0	62+ 0- 1	48	226.75	12.35	7.81	1.25	23.41	2.19	92.26	7.69	34.20	3.85	133.56	14.31
30/ 6/5	7	72+1-0	63+ 0- 1	48	251.94	13.86	8.40	1.23	24.26	2.31	165.03	14.22	33.79	3.94	234.94	25.48
2/ 7/5	9	70+1-0	62+ 0- 0	48	269.63	15.39	8.84	1.94	26.35	2.49	217.72	18.59	36.04	4.61	307.03	33.72
3/ 7/5	10	72+1-1	62+ 2- 0	48	273.43	15.94	3.80	2.75	25.09	2.44	242.80	20.50	39.01	5.13	346.04	37.86
7/ 7/5	14	71+1-0	62+ 0- 0	48	305.94	18.59	8.13	1.09	26.87	2.42	350.23	29.46	35.23	4.58	486.96	55.07
9/ 7/5	16	72+1-0	63+ 1- 0	48	322.36	20.07	8.21	1.76	27.56	2.60	405.40	34.20	40.48	5.50	567.93	65.42
11/ 7/5	18	72+0-1	62+ 0- 0	48	331.77	21.17	4.70	1.53	27.42	2.46	460.24	38.41	41.25	5.91	650.43	75.64
14/ 7/5	21	72+0-0	63+ 1- 1	47	340.80	22.92	5.68	1.49	27.44	2.40	542.52*	44.64	39.70	5.01	769.52*	90.41
16/ 7/5	23	73+1-0	63+ 1- 0	43	360.79	24.32	5.99	2.00	28.33	2.64	599.30	48.97	38.00	5.47	845.51	99.64
18/ 7/5	25	74+0-1	63+ 0- 0	48	369.55	24.97	4.38	1.70	27.48	2.85	654.27	53.44	37.84	5.78	921.19	110.32
21/ 7/5	28	74+0-0	64+ 0- 0	47	383.95	26.82	4.80	1.36	27.99	2.59	738.24*	60.20	37.16	6.14	1032.74*	126.73

Table B-6.

EXPERIMENT H

GROUP 1

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	FOOD CONSUMED SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	WATER CONSUMED SD
5/ 8/5	0	0+0-0	0+ 0- 0	16	197.21	9.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/ 8/5	1	73+0-0	64+ 0- 0	16	205.05	10.65	7.84	2.97	23.58	2.35	23.58	2.35	34.29	3.56	34.29	3.56
8/ 8/5	3	71+1-0	63+ 0- 1	16	220.42	13.15	7.68	2.23	24.33	2.33	72.24	6.54	33.80	4.70	102.05	12.49
11/ 8/5	6	72+0-0	65+ 0- 0	16	243.53	15.35	7.70	1.58	25.20	2.60	148.09	14.23	32.90	4.54	200.74	25.57
13/ 8/5	8	73+0-0	64+ 0- 0	16	262.65	18.05	9.56	1.92	25.63	2.80	199.36	19.61	34.33	5.33	269.39	35.47
15/ 8/5	10	74+0-0	67+ 0- 1	16	276.22	19.09	6.78	1.17	25.54	2.60	250.44	24.64	35.97	4.83	341.33	44.87
18/ 8/5	13	74+0-2	68+ 1- 2	16	300.40	21.74	8.06	1.39	27.05	3.02	331.59	33.41	35.40	5.05	447.52	61.75
20/ 8/5	15	71+0-0	66+ 0- 0	16	317.34	22.52	8.47	1.66	27.91	2.95	387.41	39.12	35.35	5.65	518.22	72.33
22/ 8/5	17	72+0-0	69+ 0- 1	15	328.51	22.52	5.50	1.35	27.13	2.73	441.67*	43.81	37.03	5.49	592.30*	82.91
25/ 8/5	20	72+0-0	71+ 0- 1	16	349.81	25.29	6.83	1.67	28.54	2.80	527.29	51.81	36.40	5.94	701.50	100.09
27/ 8/5	22	72+0-1	67+ 0- 0	16	362.20	25.32	6.60	1.39	28.32	2.58	583.92	56.64	36.26	6.14	774.82	111.68
29/ 8/5	24	70+1-0	66+ 0- 0	16	371.79	25.86	4.80	1.33	27.91	2.17	639.74	60.25	37.46	5.94	848.94	122.77
2/ 9/5	28	0+0-0	0+ 0- 0	16	393.69	26.62	5.47	1.09	28.07	2.46	755.23	69.81	36.67	5.17	995.62	142.37

GROUP 2

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	FOOD CONSUMED SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	WATER CONSUMED SD
5/ 8/5	0	0+0-0	0+ 0- 0	16	180.10	13.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/ 8/5	1	73+0-0	64+ 0- 0	16	197.17	14.40	9.07	2.09	23.06	2.09	23.06	2.09	33.76	4.45	33.76	4.45
8/ 8/5	3	71+1-0	63+ 0- 1	16	211.74	16.29	7.28	1.29	23.88	1.89	70.81	5.67	33.84	4.27	101.44	12.57
11/ 8/5	6	72+0-0	65+ 0- 0	16	237.37	18.20	8.54	1.24	25.10	1.78	146.33	10.67	32.59	4.31	199.22	25.19
13/ 8/5	8	73+0-0	64+ 0- 0	16	255.64	20.44	9.14	1.65	25.67	2.17	197.68	14.35	32.96	4.79	265.13	34.09
15/ 8/5	10	74+0-0	67+ 0- 1	16	268.87	21.81	6.61	1.03	25.78	2.13	249.08	18.11	35.10	4.92	335.32	43.57
18/ 8/5	13	74+0-2	68+ 1- 2	16	292.52	23.16	7.89	1.31	26.86	2.25	329.64	24.29	34.50	4.82	438.84	57.32
20/ 8/5	15	71+0-0	66+ 0- 0	16	309.84	25.04	8.66	1.40	27.83	2.50	385.31	28.74	34.39	4.69	507.63	66.81
22/ 8/5	17	72+0-0	69+ 0- 1	16	324.11	25.87	7.14	1.48	27.35	3.38	440.81	33.77	36.81	5.81	579.64	76.64
25/ 8/5	20	72+0-0	71+ 0- 1	16	343.96	26.74	6.61	1.09	29.06	3.31	527.20	41.79	35.23	4.93	685.34	89.73
27/ 8/5	22	72+0-1	67+ 0- 0	16	359.01	28.11	7.52	1.35	28.58	2.25	584.36	45.68	34.19	4.67	753.73	98.13
29/ 8/5	24	70+1-0	66+ 0- 0	16	368.44	28.94	4.72	2.06	28.19	2.40	640.74	49.50	35.67	4.92	825.06	107.36
2/ 9/5	28	0+0-0	0+ 0- 0	16	392.05	31.59	5.90	1.30	29.19	2.45	757.49	50.15	35.84	4.70	968.43	124.03

GROUP 3

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	FOOD CONSUMED SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	WATER CONSUMED SD
5/ 8/5	0	0+0-0	0+ 0- 0	16	192.44	9.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/ 8/5	1	73+0-0	64+ 0- 0	16	200.21	11.04	7.77	2.91	23.04	2.09	23.04	2.09	34.18	5.15	34.18	5.15
8/ 8/5	3	71+1-0	63+ 0- 1	16	216.59	11.69	8.19	1.51	24.69	1.65	72.43	5.09	34.57	4.44	103.31	13.60
11/ 8/5	6	72+0-0	65+ 0- 0	16	243.94	14.20	9.12	1.35	25.72	1.64	149.50	9.65	34.34	3.80	206.34	24.99
13/ 8/5	8	73+0-0	64+ 0- 0	16	261.67	16.54	8.87	1.71	26.22	1.99	202.03	13.42	35.60	4.27	277.71	32.04
15/ 8/5	10	74+0-0	67+ 0- 1	16	276.44	19.32	7.38	1.85	25.93	2.15	253.89	17.41	36.35	3.60	350.41	38.73
18/ 8/5	13	74+0-2	68+ 1- 2	16	302.32	21.06	8.63	1.23	27.90	2.29	337.50	21.73	36.31	4.20	459.34	50.62
20/ 8/5	15	71+0-0	66+ 0- 0	16	320.33	23.70	9.01	2.17	28.19	2.46	393.97	25.90	36.47	4.45	532.20	59.11
22/ 8/5	17	72+0-0	69+ 0- 1	16	333.37	24.39	6.52	1.46	28.53	2.22	451.02	30.17	39.79	4.70	611.07	62.20
25/ 8/5	20	72+0-0	71+ 0- 1	16	353.70	27.05	6.00	1.49	29.45	2.70	539.30	37.36	37.10	4.42	723.18	79.47
27/ 8/5	22	72+0-1	67+ 0- 0	16	369.41	29.37	7.02	2.03	29.32	2.03	598.01	42.41	37.27	4.54	797.71	88.03
29/ 8/5	24	70+1-0	66+ 0- 0	15	377.27	31.52	3.93	1.96	28.76	2.20	655.53*	46.16	38.37	5.40	875.00*	97.52
2/ 9/5	28	0+0-0	0+ 0- 0	16	398.50	34.21	5.31	1.56	29.11	2.73	771.96	55.17	37.92	5.75	1026.60	115.92

Table B-7.

EXPERIMENT H

GROUP 4

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	FOOD CONSUMED SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	WATER CONSUMED SD
5/ 8/5	0	0+0-0	0+ 0- 0	16	188.35	11.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/ 8/5	1	73+0-0	64+ 0- 0	16	196.34	11.47	7.99	2.42	21.88	1.88	21.88	1.88	31.51	3.06	31.51	3.06
8/ 8/5	3	71+1-0	63+ 0- 1	16	210.63	12.67	7.14	1.02	23.51	1.98	68.90	5.73	32.45	3.16	96.40	9.08
11/ 8/5	6	72+0-0	65+ 0- 0	16	235.61	14.30	8.33	1.30	24.53	1.75	142.49	10.62	31.99	3.49	192.38	18.90
13/ 8/5	8	73+0-0	64+ 0- 0	16	252.63	15.86	8.51	1.38	24.83	1.55	192.16	13.33	32.98	3.37	258.35	25.43
15/ 8/5	10	74+0-0	67+ 0- 1	16	264.25	15.99	5.81	1.50	24.65	1.67	241.46	16.29	33.20	3.31	324.74	31.64
18/ 8/5	13	74+0-2	68+ 1- 2	16	287.48	17.56	7.74	1.48	25.92	1.84	319.24	21.01	33.69	3.42	425.83	40.99
20/ 8/5	15	71+0-0	66+ 0- 0	16	303.99	19.74	8.25	2.06	26.28	2.03	371.79	24.62	33.90	3.93	493.63	48.18
22/ 8/5	17	72+0-0	69+ 0- 1	16	313.01	19.58	4.51	1.90	27.17	3.98	426.12	31.27	35.12	3.67	563.88	54.47
25/ 8/5	20	72+0-0	71+ 0- 1	16	332.91	23.53	6.63	2.08	26.96	2.20	507.01	37.24	34.78	4.53	668.22	66.63
27/ 8/5	22	72+0-1	67+ 0- 0	16	346.43	24.91	6.76	1.42	27.15	2.01	561.32	40.77	33.62	3.92	735.46	73.64
29/ 8/5	24	70+1-0	66+ 0- 0	15	353.68	26.23	3.62	1.67	27.17	2.07	615.65*	42.76	35.43	4.21	805.14*	78.20
2/ 9/5	28	0+0-0	0+ 0- 0	16	372.68	28.98	4.75	1.38	27.19	2.19	724.42	50.05	34.20	3.59	941.94	90.88

GROUP 5

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	FOOD CONSUMED SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	WATER CONSUMED SD
5/ 8/5	0	0+0-0	0+ 0- 0	16	192.01	12.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/ 8/5	1	73+0-0	64+ 0- 0	16	198.67	12.56	6.66	2.03	23.88	3.43	23.88	3.43	33.54	3.40	33.54	3.40
8/ 8/5	3	71+1-0	63+ 0- 1	16	214.36	13.24	7.84	1.31	24.21	1.66	72.29	5.12	34.26	2.98	102.07	8.91
11/ 8/5	6	72+0-0	65+ 0- 0	16	240.99	14.66	8.88	0.95	25.76	2.09	149.56	10.69	34.14	3.12	204.48	17.50
13/ 8/5	8	73+0-0	64+ 0- 0	16	259.17	15.96	9.09	1.57	26.73	3.44	203.02	17.13	35.94	4.50	276.36	25.63
15/ 8/5	10	74+0-0	67+ 0- 1	15	271.08	16.40	5.96	1.44	25.89	1.91	254.81*	19.60	35.38	4.85	346.68*	34.39
18/ 8/5	13	74+0-2	68+ 1- 2	16	295.93	17.10	8.28	1.20	27.53	2.88	337.41	27.42	35.75	5.32	453.93	49.21
20/ 8/5	15	71+0-0	66+ 0- 0	16	311.50	17.65	7.82	1.23	27.98	2.54	393.36	31.70	35.27	6.18	524.47	61.17
22/ 8/5	17	72+0-0	69+ 0- 1	16	323.27	17.95	5.85	1.72	27.47	2.34	448.31	35.17	38.12	5.70	600.70	71.71
25/ 8/5	20	72+0-0	71+ 0- 1	16	343.39	18.07	6.71	1.78	29.30	3.51	536.19	45.12	36.78	6.68	711.03	91.07
27/ 8/5	22	72+0-1	67+ 0- 0	16	359.13	19.27	7.87	2.07	30.19	4.50	596.57	53.29	36.50	4.95	784.04	100.62
29/ 8/5	24	70+1-0	66+ 0- 0	15	367.14	20.05	4.00	1.27	28.04	2.05	652.65*	55.20	38.21	6.40	860.12*	112.75
2/ 9/5	28	0+0-0	0+ 0- 0	15	380.13	21.20	5.25	1.07	28.41	2.27	766.29*	61.14	36.32	5.68	1005.03*	134.42

GROUP 6

DATE	DAY	TEMP	HUMIDITY	N	BODY WEIGHT XBAR	BODY WEIGHT SD	CHG. BODY WT. XBAR	CHG. BODY WT. SD	FOOD CONSUMED XBAR	FOOD CONSUMED SD	FOOD CONSUMED TOTAL TO DATE	FOOD CONSUMED SD	WATER CONSUMED XBAR	WATER CONSUMED SD	WATER CONSUMED TOTAL TO DATE	WATER CONSUMED SD
5/ 8/5	0	0+0-0	0+ 0- 0	16	192.32	9.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/ 8/5	1	73+0-0	64+ 0- 0	16	199.56	10.20	7.24	2.08	23.24	2.51	23.24	2.51	32.54	3.68	32.54	3.68
8/ 8/5	3	71+1-0	63+ 0- 1	16	215.02	10.90	7.73	1.39	26.37	6.40	75.98	14.26	33.03	4.16	98.61	11.75
11/ 8/5	6	72+0-0	65+ 0- 0	16	241.56	13.05	8.85	1.13	25.84	5.65	153.49	29.07	31.99	4.41	194.56	24.69
13/ 8/5	8	73+0-0	64+ 0- 0	16	259.19	15.13	8.82	1.31	25.49	3.50	204.47	35.37	33.93	4.96	262.42	34.29
15/ 8/5	10	74+0-0	67+ 0- 1	16	271.41	15.50	6.11	1.71	26.43	2.63	257.32	39.57	34.81	4.76	332.03	42.95
18/ 8/5	13	74+0-2	68+ 1- 2	15	295.49	17.11	8.02	0.96	27.36	4.64	339.27*	53.02	35.07	5.48	437.24*	57.53
20/ 8/5	15	71+0-0	66+ 0- 0	16	312.72	18.98	8.62	1.71	27.48	4.09	394.22	59.79	33.08	6.18	503.41	67.88
22/ 8/5	17	72+0-0	69+ 0- 1	16	324.45	19.10	5.87	1.05	27.79	2.41	449.80	62.09	37.03	5.64	577.4[illegible]	78.4[illegible]
25/ 8/5	20	72+0-0	71+ 0- 1	16	346.10	20.72	7.22	1.38	29.26	4.23	537.58	75.10	36.34	5.70	686.49	94.48
27/ 8/5	22	72+0-1	67+ 0- 0	16	359.74	22.54	6.82	1.73	30.95	7.40	599.40	80.19	35.87	4.65	758.22	103.19
29/ 8/5	24	70+1-0	66+ 0- 0	16	368.43	22.76	4.34	1.67	28.50	3.31	656.47	94.39	36.95	4.40	832.12	111.50
2/ 9/5	28	0+0-0	0+ 0- 0	15	390.37	25.39	5.49	1.31	28.29	2.14	769.64*	97.06	36.37	6.03	977.2[illegible]*	133.51

APPENDIX C

Data and Statistical Summary of the Biochemical and Hematological Analyses

These tables present the raw data and a statistical summary for the biochemical and hematological analyses for each experimental group of the four experiments, E, F, G, and H. The average per day growth rate over the 28-day exposure period and the final weight are presented for convenience.

The field strength and chamber position (either upper or lower) for any group can be obtained from Table 3 of the text.

Note that in experiment F, animals numbered 231 (see Table C-4), 687 and 689 (see Table C-6) were deleted from the growth analyses as discussed in Appendix B. A 999.0 was used in the final weight (FNL WT) column and a 000.0 was used in the growth rate column (WT/DAY) to identify the deleted animals. When a 0.0 is encountered in the rest of these tables, it indicates that the biochemical and hematological determinations were not performed. This only occurred as a result of an insufficient quantity or a clotted sample.

Histograms of these data indicated that nonparametric techniques should be used for their analysis. However, the first quartile (Q1), median (MED), third quartile (Q3), the number of animals (N), the average (AVG), standard deviation (S.D.), and standard error (S.E.) are presented for the statistical summary.

The headings for each column are defined as (proceeding from left to right):

ID#	three-digit code randomly assigned to each animal of an experiment. The units and tens digits specify where each of the 96 animals was positioned. The hundreds digit specifies the chamber number (1-6).
T.P.	total blood protein (g/dl)
GLOB	blood globulin (mg/dl)
GLU	blood glucose (mg/dl)
T.L.	blood total lipids (mg/dl)
CHOL	blood cholesterol (mg/dl)
TRIG	blood triglycerides (mg/dl)
WT-DAY	final body mass-initial body mass/28, (g/day)
FNL WT	final body mass (g)
RBC	red blood cells (cells/mm^3 x 10^6)
WBC	white blood cells (cells/mm^3 x 10^3)
POLY	segment neutrophils (%)
LYHS	lymphocytes (%)
HCT	hematocrit (%)
HGB	hemoglobin (g/dl)

Table C-1.

EXPERIMENT E GROUP 1

ID#	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYMS	HCT	HGB
101	5.720	1.840	322.0	465.0	80.0	187.0	4.900	338.0	6.010	9450.0	6.0	94.0	48.0	14.9
102	3.910	1.800	206.0	404.0	110.0	183.0	6.800	402.0	7.140	6390.0	6.0	93.0	52.0	16.3
103	6.910	2.540	211.0	375.0	130.0	218.0	7.000	431.0	5.900	5230.0	4.0	96.0	47.0	15.4
104	5.700	2.150	254.0	448.0	106.0	202.0	6.100	394.0	0.000	0.0	0.0	0.0	0.0	0.0
105	5.890	2.020	220.0	280.0	104.0	193.0	7.500	421.0	5.960	8100.0	4.0	95.0	47.0	15.2
106	6.210	2.110	439.0	372.0	108.0	235.0	7.000	418.0	5.990	2450.0	6.0	94.0	47.0	15.6
107	5.470	1.900	196.0	330.0	103.0	169.0	6.900	427.0	5.190	5470.0	6.0	94.0	44.0	14.3
108	5.980	2.150	309.0	428.0	123.0	202.0	6.600	398.0	6.390	6690.0	6.0	93.0	52.0	16.8
109	5.310	1.810	468.0	308.0	86.0	126.0	6.600	413.0	5.590	5580.0	7.0	91.0	44.0	14.4
110	5.790	1.930	220.0	447.0	88.0	142.0	5.900	399.0	5.620	5100.0	15.0	83.0	47.0	14.8
111	5.910	1.990	220.0	488.0	49.0	148.0	4.500	332.0	6.030	9560.0	9.0	88.0	48.0	15.5
112	5.470	1.640	194.0	548.0	57.0	125.0	5.500	358.0	6.010	6110.0	11.0	86.0	49.0	16.0
113	5.390	1.670	292.0	498.0	81.0	237.0	7.000	405.0	5.950	1080.0	4.0	94.0	47.0	15.4
114	5.700	1.840	349.0	395.0	64.0	147.0	6.300	402.0	5.650	7610.0	13.0	84.0	45.0	15.0
115	5.630	2.120	284.0	480.0	70.0	119.0	6.600	419.0	6.180	6070.0	6.0	92.0	48.0	15.2
116	7.230	2.620	314.0	380.0	65.0	183.0	6.400	419.0	6.250	1085.0	11.0	88.0	50.0	17.2
Q-1	5.470	1.855	215.5	373.5	67.5	144.5	5.950	396.0	5.650	5100.0	6.0	88.0	47.0	14.9
MED	5.710	1.960	269.0	416.0	87.0	183.0	6.500	403.5	5.990	6070.0	6.0	93.0	47.0	15.4
Q-3	5.945	2.135	318.0	472.5	107.0	202.0	6.950	419.0	6.180	7610.0	11.0	94.0	48.0	16.0
N	16.000	16.000	16.0	16.0	16.0	16.0	16.000	16.0	15.000	15.0	15.0	15.0	15.0	15.0
AVG	5.764	2.038	281.1	415.4	89.5	176.0	6.300	398.5	5.991	5731.7	7.6	91.0	47.6	15.5
S.D.	0.718	0.243	83.8	73.5	25.0	38.3	0.803	30.1	0.435	2590.8	3.4	4.2	2.4	0.8
S.E.	0.179	0.061	21.0	18.4	6.3	9.6	0.201	7.5	0.112	668.9	0.9	1.1	0.6	0.2

EXPERIMENT E GROUP 2

ID#	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYMS	HCT	HGB
217	5.620	2.080	325.0	553.0	94.0	108.0	6.400	391.0	5.910	5120.0	18.0	82.0	43.0	14.6
218	5.800	1.860	234.0	437.0	69.0	68.0	5.500	381.0	5.650	9060.0	8.0	91.0	42.0	13.8
219	5.980	1.480	188.0	545.0	83.0	108.0	6.600	401.0	5.690	4760.0	12.0	85.0	44.0	14.2
220	7.110	2.470	153.0	476.0	92.0	171.0	6.400	412.0	5.960	7790.0	3.0	97.0	45.0	14.8
221	5.150	1.620	373.0	504.0	80.0	169.0	6.600	426.0	5.850	9390.0	8.0	91.0	45.0	15.2
222	5.630	1.920	157.0	521.0	85.0	218.0	6.800	397.0	5.680	8520.0	9.0	87.0	45.0	15.0
223	5.980	1.950	94.0	432.0	65.0	192.0	6.300	378.0	5.740	4760.0	5.0	92.0	43.0	14.0
224	7.090	2.450	148.0	284.0	65.0	196.0	6.100	358.0	4.870	6280.0	10.0	89.0	35.0	12.0
225	5.880	1.950	143.0	402.0	53.0	325.0	6.300	394.0	5.720	4440.0	8.0	92.0	43.0	14.2
226	5.890	1.890	140.0	496.0	80.0	169.0	6.700	405.0	6.040	7260.0	7.0	91.0	45.0	15.0
227	5.520	1.810	166.0	607.0	63.0	202.0	6.500	399.0	5.850	5650.0	10.0	90.0	44.0	14.7
228	4.760	1.590	143.0	402.0	88.0	125.0	6.200	406.0	6.040	5400.0	10.0	89.0	45.0	14.9
229	5.630	1.900	138.0	490.0	69.0	135.0	6.100	386.0	6.180	7630.0	7.0	91.0	47.0	15.6
230	5.910	1.800	118.0	443.0	63.0	140.0	7.400	442.0	5.940	4120.0	14.0	85.0	44.0	14.4
231	5.960	1.860	138.0	522.0	65.0	117.0	6.200	376.0	6.400	3800.0	9.0	90.0	48.0	16.3
232	5.570	1.840	162.0	409.0	55.0	229.0	6.600	404.0	6.260	8400.0	6.0	93.0	46.0	15.2
Q-1	5.595	1.805	139.0	420.5	64.0	121.0	6.200	383.5	5.705	4760.0	7.0	88.0	43.0	14.2
MED	5.840	1.875	150.5	483.0	69.0	169.0	6.400	398.0	5.880	5965.0	8.5	90.5	44.5	14.8
Q-3	5.970	1.950	177.0	521.5	84.0	199.0	6.600	405.5	6.040	8095.0	10.0	91.5	45.0	15.1
N	16.000	16.000	16.0	16.0	16.0	16.0	16.000	16.0	16.000	16.0	16.0	16.0	16.0	16.0
AVG	5.843	1.904	176.3	470.2	73.1	166.5	6.419	397.3	5.861	6398.8	9.0	89.7	44.0	14.6
S.D.	0.588	0.263	74.4	77.3	13.0	62.1	0.405	20.1	0.342	1881.3	3.6	3.6	2.9	0.9
S.E.	0.147	0.066	18.6	19.3	3.2	15.5	0.101	5.0	0.086	470.3	0.9	0.9	0.7	0.2

Table C-2.

EXPERIMENT E GROUP 3

ID#	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYHS	HCT	HGB
333	5.900	1.990	377.0	390.0	47.0	139.0	6.400	384.0	0.000	0.0	0.0	0.0	0.0	0.0
334	5.800	1.960	308.0	450.0	51.0	110.0	6.200	375.0	5.790	6790.0	9.0	91.0	43.0	12.9
335	5.800	2.060	187.0	545.0	64.0	98.0	6.300	396.0	6.260	5070.0	7.0	93.0	45.0	14.6
336	5.480	1.770	497.0	541.0	113.0	110.0	5.400	351.0	6.690	3060.0	4.0	95.0	44.0	14.2
337	7.230	2.620	454.0	533.0	136.0	93.0	7.300	431.0	6.400	7990.0	5.0	95.0	50.0	17.6
338	6.000	2.210	224.0	383.0	87.0	98.0	6.200	385.0	6.560	4360.0	8.0	92.0	50.0	16.9
339	7.580	2.820	316.0	409.0	69.0	179.0	6.000	389.0	6.550	8060.0	12.0	87.0	51.0	17.8
340	7.140	2.350	156.0	342.0	58.0	149.0	6.100	400.0	6.930	7990.0	4.0	94.0	50.0	16.8
341	5.400	1.920	184.0	395.0	62.0	228.0	6.400	390.0	6.830	1050.0	9.0	90.0	45.0	15.0
342	6.060	2.090	112.0	424.0	60.0	187.0	6.200	389.0	6.980	8880.0	2.0	96.0	48.0	15.6
343	6.260	2.080	176.0	428.0	123.0	154.0	6.300	397.0	7.120	2840.0	14.0	87.0	47.0	15.4
344	5.470	1.750	193.0	486.0	65.0	178.0	5.400	359.0	6.550	3860.0	7.0	91.0	45.0	14.8
345	5.240	1.560	90.0	460.0	138.0	70.0	6.500	408.0	6.470	6440.0	3.0	96.0	43.0	13.9
346	5.470	1.960	291.0	493.0	70.0	207.0	6.600	401.0	6.600	5410.0	11.0	89.0	42.0	14.2
347	5.880	2.070	168.0	445.0	106.0	127.0	5.200	343.0	7.100	7770.0	25.0	74.0	45.0	14.8
348	7.480	2.690	418.0	501.0	64.0	94.0	5.100	362.0	6.940	4730.0	11.0	88.0	44.0	14.0
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Q-1	5.475	1.940	172.0	402.0	61.0	98.0	5.700	368.5	6.470	3860.0	4.0	88.0	44.0	14.2
MED	5.930	2.065	208.5	447.5	67.0	133.0	6.200	389.0	6.600	5410.0	8.0	91.0	45.0	14.8
Q-3	6.700	2.280	346.5	497.0	109.5	178.5	6.400	398.5	6.940	7990.0	11.0	95.0	50.0	16.8
N	16.000	16.000	16.0	16.0	16.0	16.0	16.000	16.0	15.000	15.0	15.0	15.0	15.0	15.0
AVG	6.142	2.119	259.4	451.6	82.1	138.8	6.100	385.0	6.651	5620.0	8.7	90.5	46.1	15.2
S.D.	0.779	0.348	124.6	60.9	30.8	46.5	0.574	22.6	0.353	2321.8	5.7	5.5	3.0	1.4
S.E.	0.195	0.087	31.2	15.2	7.7	11.6	0.143	5.7	0.091	599.5	1.5	1.4	0.8	0.4

EXPERIMENT E GROUP 4

ID#	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYHS	HCT	HGB
449	5.430	1.830	342.0	406.0	94.0	144.0	6.300	404.0	6.360	5980.0	11.0	89.0	50.0	17.2
450	5.980	1.720	215.0	471.0	94.0	202.0	7.400	407.0	6.380	8040.0	18.0	81.0	50.0	17.0
451	5.310	1.800	256.0	276.0	55.0	146.0	5.200	355.0	0.000	0.0	0.0	0.0	0.0	0.0
452	5.430	1.690	269.0	432.0	88.0	154.0	5.700	369.0	6.490	4590.0	7.0	93.0	50.0	16.9
453	6.480	2.270	159.0	552.0	133.0	134.0	6.500	416.0	6.450	5670.0	8.0	90.0	40.0	15.6
454	7.770	2.910	506.0	574.0	88.0	116.0	6.600	403.0	6.640	7120.0	6.0	93.0	45.0	15.4
455	5.740	1.750	119.0	422.0	80.0	178.0	6.000	402.0	6.910	7400.0	4.0	94.0	45.0	15.2
456	6.260	2.180	127.0	504.0	116.0	165.0	7.800	459.0	6.670	6600.0	4.0	96.0	45.0	15.2
457	6.170	2.320	179.0	480.0	104.0	102.0	5.900	372.0	6.720	5330.0	15.0	83.0	46.0	15.0
458	5.980	2.240	161.0	339.0	81.0	139.0	5.700	376.0	7.070	8780.0	13.0	86.0	46.0	15.4
459	5.890	2.060	257.0	478.0	108.0	162.0	5.600	367.0	6.990	6920.0	18.0	80.0	46.0	15.0
460	5.980	2.280	263.0	445.0	57.0	104.0	6.300	404.0	6.090	3210.0	10.0	89.0	45.0	15.2
461	6.250	2.210	109.0	493.0	103.0	96.0	6.000	378.0	6.100	5120.0	6.0	94.0	46.0	15.6
462	6.130	2.280	149.0	378.0	88.0	121.0	6.900	411.0	6.210	8370.0	23.0	76.0	47.0	15.4
463	5.890	2.240	203.0	467.0	123.0	141.0	6.800	402.0	5.900	7700.0	5.0	92.0	45.0	14.7
464	5.790	2.110	189.0	257.0	80.0	140.0	7.400	409.0	6.010	8770.0	4.0	96.0	45.0	14.2
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Q-1	5.765	1.815	154.0	392.0	80.5	118.5	5.800	374.0	6.100	5330.0	5.0	83.0	45.0	15.0
MED	5.980	2.195	196.0	456.0	91.0	140.5	6.300	402.5	6.450	6920.0	8.0	90.0	46.0	15.4
Q-3	6.210	2.275	260.0	486.5	106.0	158.0	6.850	408.0	6.720	8040.0	15.0	94.0	47.0	15.6
N	16.000	16.000	16.0	16.0	16.0	16.0	16.000	16.0	15.000	15.0	15.0	15.0	15.0	15.0
AVG	6.030	2.118	218.9	435.9	93.3	140.3	6.381	395.9	6.466	6640.0	10.1	88.8	46.1	15.5
S.D.	0.565	0.311	100.0	88.6	21.2	28.6	0.733	25.4	0.365	1635.6	6.0	6.3	2.5	0.9
S.E	0.141	0.078	25.0	22.2	5.3	7.2	0.183	6.4	0.094	422.3	1.6	1.6	0.7	0.2

Table C-3.

EXPERIMENT E GROUP 5

ID#	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYMS	HCT	HGB
565	6.360	2.380	104.0	486.0	55.0	174.0	7.000	420.0	6.650	7760.0	9.0	90.0	48.0	15.9
566	5.910	2.020	224.0	342.0	94.0	146.0	6.500	392.0	6.300	7010.0	6.0	92.0	46.0	15.0
567	5.890	1.850	210.0	476.0	65.0	169.0	5.900	377.0	6.430	4870.0	5.0	94.0	47.0	15.4
568	6.130	2.100	145.0	402.0	69.0	203.0	6.000	380.0	6.690	7630.0	4.0	95.0	40.0	15.6
569	6.690	2.250	409.0	456.0	63.0	188.0	6.400	416.0	7.670	6360.0	10.0	87.0	53.0	17.8
570	5.950	2.130	125.0	432.0	83.0	175.0	6.000	395.0	7.160	3450.0	3.0	96.0	50.0	17.2
571	7.230	2.620	325.0	430.0	69.0	109.0	6.600	395.0	7.930	3890.0	9.0	90.0	53.0	17.5
572	5.400	2.060	234.0	462.0	92.0	104.0	7.000	415.0	7.730	8680.0	2.0	95.0	49.0	16.9
573	5.800	2.060	241.0	439.0	136.0	123.0	7.000	409.0	7.020	5200.0	10.0	89.0	48.0	15.8
574	5.530	2.020	420.0	443.0	116.0	178.0	8.300	465.0	7.310	3400.0	3.0	94.0	47.0	16.0
575	5.570	1.900	206.0	370.0	88.0	97.0	6.900	407.0	6.630	2920.0	15.0	83.0	43.0	13.9
576	5.430	1.860	375.0	284.0	113.0	164.0	5.300	350.0	6.510	4810.0	7.0	91.0	44.0	14.4
577	5.500	1.970	238.0	284.0	65.0	213.0	6.700	406.0	6.440	8120.0	7.0	91.0	45.0	14.8
578	5.840	1.980	377.0	116.0	94.0	161.0	6.200	358.0	7.300	6890.0	7.0	89.0	48.0	16.2
579	5.800	2.390	200.0	315.0	58.0	134.0	5.400	359.0	7.030	7950.0	2.0	97.0	47.0	15.0
580	6.360	2.150	743.0	542.0	88.0	145.0	7.000	404.0	6.470	7240.0	9.0	90.0	45.0	14.8
Q-1	5.550	1.975	203.0	328.5	65.0	128.5	6.000	378.5	6.490	4350.0	3.5	89.5	45.5	14.9
MED	5.865	2.060	236.0	435.5	85.5	162.5	6.550	399.5	6.855	6625.0	7.0	91.0	47.5	15.7
Q-3	6.245	2.200	376.0	459.0	94.0	176.5	7.000	412.0	7.305	7695.0	9.0	94.5	48.5	16.6
N	16.000	16.000	16.0	16.0	16.0	16.0	16.000	16.0	16.000	16.0	16.0	16.0	16.0	16.0
AVG	5.962	2.109	286.0	393.7	84.3	155.2	6.513	396.8	6.954	6011.3	6.8	91.4	47.6	15.8
S.D.	0.497	0.211	156.9	105.1	23.1	34.7	0.733	28.4	0.518	1919.1	3.5	3.7	2.8	1.1
S.E.	0.124	0.053	39.2	26.3	5.8	8.7	0.183	7.1	0.130	479.8	0.9	0.9	0.7	0.3

EXPERIMENT E GROUP 6

ID#	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYMS	HCT	HGB
681	5.720	2.080	230.0	464.0	88.0	136.0	8.000	466.0	6.800	6050.0	6.0	93.0	48.0	16.5
682	6.080	2.320	254.0	464.0	80.0	114.0	6.800	424.0	6.470	5960.0	8.0	90.0	46.0	16.0
683	6.250	2.370	180.0	402.0	63.0	154.0	6.300	397.0	7.590	9470.0	10.0	90.0	49.0	16.7
684	4.400	1.370	217.0	333.0	85.0	143.0	6.600	417.0	6.460	3810.0	9.0	90.0	45.0	15.2
685	6.690	2.310	245.0	443.0	80.0	103.0	5.700	380.0	6.630	4810.0	6.0	94.0	47.0	15.6
686	5.600	2.050	153.0	301.0	65.0	136.0	5.800	351.0	7.120	5680.0	2.0	98.0	48.0	15.9
687	6.260	2.150	260.0	395.0	54.0	153.0	6.000	387.0	7.160	2840.0	12.0	87.0	50.0	16.8
688	5.630	2.050	239.0	321.0	71.0	85.0	8.600	478.0	6.400	9100.0	10.0	88.0	45.0	15.0
689	5.570	1.900	168.0	441.0	92.0	154.0	6.200	394.0	6.960	3940.0	8.0	92.0	47.0	14.6
690	5.390	1.870	292.0	383.0	69.0	146.0	6.300	384.0	6.680	5900.0	8.0	89.0	48.0	16.0
691	5.740	2.020	199.0	388.0	133.0	143.0	5.900	373.0	6.580	5450.0	10.0	89.0	46.0	15.2
692	5.630	1.980	352.0	291.0	47.0	134.0	4.500	333.0	6.210	4390.0	16.0	84.0	43.0	14.4
693	5.570	1.930	230.0	333.0	57.0	133.0	6.700	400.0	6.420	4290.0	11.0	88.0	45.0	14.8
694	5.630	1.740	229.0	372.0	63.0	148.0	5.600	360.0	6.210	3790.0	8.0	92.0	43.0	13.9
695	7.690	2.840	284.0	354.0	116.0	147.0	6.200	353.0	6.850	4460.0	20.0	80.0	47.0	15.8
696	5.740	1.870	241.0	354.0	94.0	145.0	7.600	437.0	6.660	7720.0	6.0	93.0	48.0	15.8
Q-1	5.585	1.885	208.0	333.0	63.0	133.5	5.850	366.5	6.440	4115.0	7.0	88.0	45.0	14.9
MED	5.675	2.035	234.5	377.5	75.5	143.0	6.250	390.5	6.645	5130.0	8.5	90.0	47.0	15.7
Q-3	6.165	2.230	257.0	421.5	90.0	147.5	6.750	420.5	6.905	6005.0	10.5	92.5	48.0	16.0
N	16.000	16.000	16.0	16.0	16.0	16.0	16.000	16.0	16.000	16.0	16.0	16.0	16.0	16.0
AVG	5.849	2.053	235.8	377.4	78.6	135.9	6.438	395.9	6.780	5478.8	9.4	89.8	46.6	15.5
S.D	0.692	0.321	49.3	55.4	22.8	19.4	1.021	40.6	0.371	1895.5	4.2	4.2	2.0	0.8
S.E	0.173	0.080	12.3	13.8	5.7	4.9	0.255	10.1	0.093	473.9	1.0	1.0	0.5	0.2

Table C-4.

EXPERIMENT F GROUP 1

ID#	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYMS	HCT	HGB
101	5.650	2.110	158.0	460.0	67.0	55.0	8.400	361.0	5.540	2550.0	20.0	77.0	40.0	13.6
102	6.500	2.210	0.0	507.0	61.0	0.0	7.100	338.0	0.000	0.0	0.0	0.0	0.0	0.0
103	5.500	2.020	406.0	458.0	77.0	100.0	8.600	355.0	0.000	0.0	0.0	0.0	0.0	0.0
104	6.670	2.700	322.0	511.0	61.0	260.0	8.400	364.0	5.880	5240.0	10.0	90.0	40.0	13.2
105	6.210	2.120	375.0	568.0	53.0	238.0	7.600	351.0	0.000	0.0	0.0	0.0	0.0	0.0
106	0.000	2.060	346.0	0.0	68.0	96.0	9.700	414.0	6.480	8770.0	3.0	97.0	47.0	15.7
107	6.740	2.250	622.0	803.0	92.0	222.0	9.000	370.0	6.500	9630.0	12.0	87.0	48.0	15.9
108	5.550	2.080	298.0	464.0	72.0	125.0	8.800	378.0	6.400	7590.0	3.0	95.0	38.0	12.2
109	5.750	2.160	0.0	533.0	66.0	103.0	9.200	392.0	6.590	6630.0	6.0	91.0	44.0	14.1
110	6.280	2.120	293.0	549.0	82.0	146.0	8.100	356.0	7.500	5910.0	2.0	96.0	50.0	17.6
111	6.130	1.990	239.0	541.0	70.0	205.0	8.100	338.0	6.680	6080.0	12.0	86.0	43.0	14.4
112	4.990	1.820	257.0	378.0	106.0	151.0	7.000	310.0	5.600	6617.0	1.0	98.0	37.0	12.0
113	6.290	2.160	266.0	472.0	74.0	160.0	7.700	357.0	0.000	0.0	0.0	0.0	0.0	0.0
114	0.000	2.060	334.0	0.0	68.0	152.0	7.500	338.0	6.620	1550.0	12.0	87.0	45.0	15.0
115	4.390	2.090	233.0	434.0	59.0	176.0	7.900	336.0	6.680	8730.0	10.0	89.0	42.0	13.9
116	5.680	1.980	279.0	502.0	85.0	93.0	8.700	379.0	5.260	7760.0	2.0	97.0	36.0	12.4
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Q-1	5.550	2.040	257.0	460.0	63.5	100.0	7.650	338.0	5.740	5575.0	2.5	87.0	39.0	12.8
MED	5.940	2.100	295.5	504.5	69.0	151.0	8.250	356.5	6.490	6623.5	8.0	90.5	42.5	14.0
Q-3	6.290	2.160	346.0	541.0	79.5	205.0	8.750	374.0	6.650	8245.0	12.0	96.5	46.0	15.4
N	14.000	16.000	14.0	14.0	16.0	15.0	16.000	16.0	12.000	12.0	12.0	12.0	12.0	12.0
AVG	5.881	2.121	316.3	512.9	72.6	152.1	8.238	358.1	6.311	6421.4	7.8	90.8	42.5	14.2
S.D.	0.658	0.185	108.3	97.7	13.5	59.3	0.756	25.5	0.627	2428.5	5.8	6.2	4.5	1.7
S.E.	0.176	0.046	28.9	26.1	3.4	15.3	0.189	6.4	0.181	701.0	1.7	1.8	1.3	0.5

EXPERIMENT F GROUP 2

ID#	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYMS	HCT	HGB
217	6.010	2.040	207.0	498.0	64.0	141.0	7.500	348.0	5.300	5340.0	15.0	81.0	39.0	12.9
218	6.040	2.130	0.0	540.0	63.0	77.0	7.800	338.0	5.900	4380.0	6.0	94.0	43.0	14.6
219	6.010	2.250	165.0	507.0	78.0	110.0	6.600	315.0	6.580	3990.0	6.0	93.0	46.0	14.9
220	6.770	2.120	280.0	656.0	72.0	230.0	9.200	395.0	5.810	6900.0	7.0	92.0	43.0	13.7
221	6.600	2.440	281.0	526.0	63.0	182.0	8.200	370.0	6.030	9790.0	10.0	88.0	45.0	15.0
222	6.740	2.200	167.0	618.0	74.0	215.0	8.500	379.0	5.980	4600.0	10.0	89.0	45.0	14.7
223	5.650	2.080	430.0	541.0	71.0	195.0	7.200	332.0	0.000	0.0	0.0	0.0	0.0	0.0
224	6.210	2.170	232.0	537.0	80.0	92.0	7.300	343.0	5.900	4350.0	9.0	91.0	43.0	14.0
225	6.150	1.890	0.0	567.0	79.0	167.0	9.200	386.0	5.880	4110.0	9.0	90.0	42.0	13.7
226	5.930	2.100	505.0	447.0	59.0	104.0	7.500	330.0	6.270	8460.0	10.0	87.0	45.0	15.0
227	0.000	2.080	315.0	0.0	71.0	253.0	8.400	369.0	5.500	9790.0	4.0	95.0	43.0	14.6
228	6.250	2.040	285.0	617.0	81.0	241.0	8.300	348.0	5.640	8470.0	5.0	94.0	42.0	14.0
229	6.420	2.520	215.0	447.0	67.0	80.0	7.600	332.0	5.460	8220.0	6.0	92.0	42.0	14.0
230	7.160	2.250	231.0	645.0	77.0	180.0	7.700	343.0	5.790	4080.0	10.0	89.0	45.0	14.7
231	6.180	2.150	202.0	633.0	83.0	234.0	0.000	999.0	6.420	4970.0	11.0	89.0	44.0	14.5
232	6.040	2.070	257.0	534.0	64.0	204.0	7.400	333.0	6.360	7880.0	11.0	88.0	44.0	14.0
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Q-1	6.010	2.075	207.0	507.0	64.0	107.0	7.400	332.0	5.640	4350.0	6.0	88.0	42.0	14.0
MED	6.180	2.125	244.5	541.0	71.5	181.0	7.700	343.0	5.900	5340.0	9.0	90.0	43.0	14.5
Q-3	6.600	2.225	285.0	618.0	78.5	222.5	8.400	370.0	6.270	8460.0	10.0	93.0	45.0	14.7
N	15.000	16.000	14.0	15.0	16.0	16.0	15.000	15.0	15.000	15.0	15.0	15.0	15.0	15.0
AVG	6.277	2.158	269.4	555.5	71.6	169.1	7.893	350.7	5.921	6355.3	8.6	90.1	43.4	14.3
S.D.	0.393	0.154	95.9	67.0	7.6	60.7	0.731	23.5	0.368	2209.7	2.9	3.5	1.8	0.6
S.E.	0.101	0.038	25.6	17.3	1.9	15.2	0.189	6.1	0.095	570.6	0.7	0.9	0.5	0.2

Table C-5.

EXPERIMENT F GROUP 3

ID#	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYMS	HCT	HGB
333	6.460	2.110	226.0	533.0	92.0	159.0	8.300	367.0	6.550	7660.0	4.0	96.0	45.0	15.2
334	5.750	1.410	242.0	632.0	101.0	140.0	8.300	380.0	5.700	5470.0	5.0	94.0	43.0	14.2
335	5.920	2.150	242.0	554.0	74.0	197.0	7.500	364.0	5.970	5820.0	7.0	92.0	45.0	15.1
336	5.970	2.020	407.0	464.0	60.0	125.0	7.200	339.0	7.640	2380.0	8.0	91.0	50.0	17.7
337	6.280	2.100	213.0	554.0	62.0	244.0	6.700	307.0	5.740	2860.0	3.0	96.0	43.0	14.0
338	7.150	2.130	165.0	570.0	63.0	170.0	6.200	290.0	6.430	5200.0	3.0	95.0	45.0	15.0
339	6.490	2.230	220.0	508.0	66.0	198.0	7.000	324.0	5.760	3030.0	5.0	94.0	43.0	13.9
340	6.050	2.060	272.0	541.0	86.0	132.0	6.400	299.0	5.590	6150.0	6.0	94.0	42.0	14.0
341	5.370	2.120	295.0	462.0	76.0	115.0	8.600	388.0	6.560	7750.0	11.0	86.0	45.0	15.1
342	6.280	2.310	152.0	444.0	74.0	77.0	7.400	331.0	5.530	3310.0	7.0	92.0	44.0	14.2
343	6.030	2.420	191.0	535.0	78.0	131.0	7.200	321.0	6.260	9260.0	11.0	87.0	45.0	14.4
344	5.890	2.120	262.0	349.0	48.0	77.0	7.600	331.0	5.500	5590.0	3.0	96.0	41.0	13.6
345	5.470	2.060	299.0	471.0	58.0	228.0	8.700	369.0	5.420	6350.0	5.0	93.0	43.0	14.0
346	5.340	2.030	220.0	370.0	53.0	74.0	6.000	280.0	5.630	5200.0	4.0	92.0	43.0	13.9
347	6.060	2.010	214.0	554.0	81.0	76.0	9.300	392.0	5.430	4840.0	5.0	94.0	43.0	14.1
348	7.290	2.370	176.0	714.0	75.0	348.0	7.200	336.0	5.700	6360.0	10.0	89.0	45.0	15.0
Q-1	5.820	2.045	202.0	[illegible]	61.0	96.0	6.850	314.0	5.560	4075.0	4.0	91.5	43.0	14.0
MED	6.040	2.120	223.0	534.0	74.0	136.0	7.300	333.5	5.720	5530.0	5.0	93.5	43.5	14.2
Q-3	6.370	2.205	267.0	554.0	79.5	197.5	8.300	368.0	6.345	6355.0	7.5	94.5	45.0	15.1
N	16.000	16.000	16.0	16.0	16.0	16.0	16.000	16.0	16.000	16.0	16.0	16.0	16.0	16.0
AVG	6.113	2.108	237.3	515.9	71.7	155.7	7.475	338.6	5.963	5451.9	6.1	92.6	44.1	14.6
S.D.	0.553	0.223	62.2	90.7	14.3	74.5	0.948	35.0	0.593	1898.1	2.7	3.1	2.0	1.0
S.E.	0.138	0.056	15.6	22.7	3.6	18.6	0.237	8.8	0.148	474.5	0.7	0.8	0.5	0.2

EXPERIMENT F GROUP 4

ID#	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYMS	HCT	HGB
449	5.680	2.150	318.0	519.0	67.0	117.0	6.900	334.0	5.260	2800.0	5.0	95.0	41.0	13.3
450	5.770	2.040	255.0	494.0	63.0	92.0	8.000	357.0	0.000	0.0	0.0	0.0	0.0	0.0
451	5.800	2.060	223.0	508.0	68.0	114.0	8.200	382.0	6.430	5520.0	12.0	87.0	48.0	15.4
452	0.000	1.960	614.0	0.0	76.0	153.0	7.000	329.0	5.920	6230.0	8.0	91.0	43.0	14.2
453	4.960	1.810	295.0	396.0	55.0	120.0	7.400	336.0	5.450	3160.0	18.0	81.0	44.0	14.5
454	6.200	2.160	213.0	400.0	64.0	244.0	6.900	338.0	5.420	6140.0	10.0	89.0	44.0	14.4
455	5.970	2.030	206.0	575.0	79.0	92.0	7.300	324.0	6.370	6470.0	9.0	90.0	43.0	14.6
456	6.270	2.070	258.0	430.0	77.0	79.0	7.800	354.0	6.060	3640.0	6.0	92.0	42.0	13.4
457	6.030	1.890	186.0	682.0	77.0	256.0	7.100	312.0	5.730	9170.0	2.0	97.0	43.0	14.1
458	7.000	2.080	287.0	585.0	72.0	210.0	7.900	348.0	3.820	2430.0	5.0	95.0	28.0	9.6
459	6.100	2.140	386.0	0.0	73.0	319.0	8.000	348.0	0.150	1580.0	3.0	96.0	34.0	10.2
460	5.700	1.770	243.0	400.0	63.0	128.0	6.800	305.0	5.740	3510.0	6.0	93.0	42.0	13.9
461	5.680	2.220	92.0	354.0	59.0	54.0	7.300	350.0	6.210	4690.0	10.0	90.0	43.0	14.2
462	6.050	1.940	194.0	363.0	65.0	315.0	6.400	295.0	5.810	2340.0	8.0	90.0	42.0	14.0
463	5.890	1.930	194.0	451.0	69.0	155.0	8.200	375.0	6.630	8400.0	8.0	91.0	44.0	14.4
464	5.030	1.980	135.0	408.0	63.0	73.0	6.300	301.0	6.260	5790.0	10.0	90.0	43.0	14.1
Q-1	5.680	1.935	194.0	400.0	63.0	92.0	6.900	318.0	5.420	2800.0	5.0	90.0	42.0	13.4
MED	5.890	2.035	233.0	440.5	67.5	124.0	7.300	337.0	5.810	4690.0	8.0	91.0	43.0	14.1
Q-3	6.100	2.110	291.0	519.0	74.5	227.0	7.950	352.0	6.260	6230.0	10.0	95.0	44.0	14.4
N	15.000	16.000	16.0	14.0	16.0	16.0	16.000	16.0	15.000	15.0	15.0	15.0	15.0	15.0
AVG	5.875	2.014	256.2	468.9	68.1	157.6	7.344	336.0	5.417	4791.3	8.0	91.1	41.6	13.6
S.D.	0.487	0.127	118.6	95.9	7.0	85.3	0.616	25.2	1.605	2266.7	3.9	4.0	4.7	1.6
S.E.	0.126	0.032	29.7	25.6	1.8	21.3	0.154	6.3	0.415	585.3	1.0	1.0	1.2	0.4

Table C-6.

EXPERIMENT F GROUP 5

ID0	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYMS	HCT	HGB
565	6.500	2.330	472.0	614.0	71.0	229.0	7.100	327.0	6.470	6310.0	6.0	93.0	45.0	15.0
566	5.650	2.100	165.0	533.0	78.0	168.0	6.400	325.0	6.760	2730.0	5.0	94.0	45.0	14.6
567	6.700	1.990	215.0	575.0	87.0	116.0	6.200	290.0	5.330	7250.0	5.0	94.0	40.0	12.9
568	5.870	2.400	98.0	494.0	64.0	162.0	7.600	358.0	6.350	7880.0	10.0	89.0	42.0	13.7
569	5.370	2.290	78.0	430.0	71.0	106.0	7.000	335.0	6.240	4140.0	6.0	93.0	43.0	14.0
570	6.580	1.930	155.0	622.0	69.0	270.0	7.200	340.0	6.600	7360.0	7.0	91.0	44.0	14.7
571	6.190	2.030	201.0	489.0	60.0	125.0	7.400	350.0	6.290	4500.0	8.0	89.0	43.0	13.8
572	6.060	1.670	129.0	413.0	56.0	130.0	6.100	307.0	5.750	8940.0	9.0	90.0	43.0	14.6
573	6.050	1.780	173.0	498.0	67.0	172.0	8.100	346.0	5.940	6070.0	7.0	91.0	43.0	14.3
574	6.040	2.220	174.0	387.0	56.0	107.0	7.700	359.0	5.790	5400.0	16.0	84.0	42.0	13.7
575	5.230	2.830	292.0	380.0	59.0	60.0	7.500	354.0	6.230	7490.0	7.0	92.0	46.0	15.4
576	5.710	1.920	580.0	481.0	75.0	139.0	7.600	326.0	6.950	6270.0	5.0	93.0	48.0	16.6
577	5.650	2.030	220.0	481.0	51.0	132.0	7.500	337.0	6.500	10930.0	4.0	96.0	44.0	15.4
578	6.350	2.220	218.0	0.0	60.0	149.0	8.100	345.0	7.020	3270.0	7.0	89.0	48.0	17.0
579	6.170	2.120	182.0	416.0	52.0	114.0	6.800	333.0	7.120	6630.0	6.0	92.0	47.0	16.1
580	6.010	2.190	513.0	517.0	66.0	98.0	5.700	287.0	7.100	5710.0	8.0	90.0	49.0	17.4
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Q-1	5.680	1.960	160.0	416.0	57.5	110.5	6.600	325.5	6.085	4950.0	5.5	89.5	43.0	13.9
MED	6.045	2.110	191.5	489.0	65.0	131.0	7.300	336.0	6.410	6290.0	7.0	91.5	44.0	14.7
Q-3	6.270	2.255	256.0	533.0	71.0	165.0	7.600	348.0	6.855	7425.0	8.0	93.0	46.5	15.8
N	16.000	16.000	16.0	15.0	16.0	16.0	16.000	16.0	16.000	16.0	16.0	16.0	16.0	16.0
AVG	6.008	2.128	241.6	488.7	65.1	142.3	7.125	332.4	6.403	6305.0	7.3	91.3	44.5	14.9
S.D	0.417	0.272	149.1	75.8	9.9	51.1	0.713	21.9	0.523	2089.6	2.8	[illegible]	2.5	1.3
S.E	0.104	0.068	37.3	19.6	2.5	12.8	0.178	5.5	0.131	522.4	0.7	0.7	0.6	0.3

EXPERIMENT F GROUP 6

ID0	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYMS	HCT.	HGB
681	5.760	2.270	208.0	426.0	59.0	111.0	6.800	322.0	7.140	5140.0	4.0	95.0	48.0	16.7
682	6.600	2.040	221.0	0.0	62.0	168.0	8.800	384.0	6.200	8640.0	6.0	93.0	44.0	14.2
683	6.210	2.200	138.0	473.0	68.0	133.0	7.500	349.0	6.220	5590.0	11.0	87.0	43.0	14.2
684	5.530	1.930	239.0	357.0	55.0	130.0	7.100	344.0	6.320	10050.0	7.0	92.0	43.0	14.1
685	6.130	2.160	240.0	647.0	97.0	192.0	8.600	359.0	7.090	9850.0	5.0	94.0	46.0	15.0
686	5.990	2.250	216.0	595.0	54.0	220.0	8.600	385.0	6.370	4060.0	8.0	91.0	44.0	14.4
687	6.010	1.980	190.0	421.0	65.0	136.0	0.000	999.0	6.240	6060.0	10.0	96.0	43.0	14.2
688	6.010	2.180	132.0	467.0	72.0	122.0	6.800	317.0	6.640	5720.0	9.0	90.0	43.0	14.4
689	4.870	2.360	212.0	327.0	45.0	108.0	0.000	999.0	6.470	2630.0	7.0	91.0	45.0	15.1
690	6.250	2.230	260.0	567.0	78.0	173.0	8.700	363.0	6.510	2963.0	7.0	89.0	45.0	15.0
691	6.040	2.120	284.0	507.0	75.0	174.0	7.700	330.0	6.530	6180.0	8.0	92.0	44.0	13.7
692	5.800	1.930	154.0	604.0	82.0	170.0	8.200	362.0	6.260	7920.0	2.0	97.0	44.0	14.6
693	5.470	1.860	209.0	387.0	55.0	108.0	8.700	380.0	6.320	5570.0	17.0	82.0	43.0	14.0
694	5.800	1.990	336.0	455.0	75.0	122.0	8.500	382.0	6.320	5760.0	4.0	94.0	43.0	14.2
695	6.120	2.080	191.0	605.0	91.0	95.0	6.500	295.0	7.180	6550.0	8.0	91.0	49.0	16.7
696	5.910	2.060	138.0	443.0	65.0	132.0	7.400	316.0	6.670	8780.0	12.0	88.0	44.0	14.2
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Q-1	5.780	1.985	172.0	421.0	57.0	116.5	7.100	322.0	6.290	5355.0	5.5	89.5	43.0	14.2
MED	6.000	2.100	210.5	467.0	66.5	132.5	7.950	354.0	6.420	5910.0	7.5	91.0	44.0	14.3
Q-3	6.125	2.215	239.5	595.0	76.5	171.5	8.600	380.0	6.655	8280.0	9.5	93.5	45.0	15.0
N	16.000	16.000	16.0	15.0	16.0	16.0	14.000	14.0	16.000	16.0	16.0	16.0	16.0	16.0
AVG	5.906	2.102	210.5	485.4	68.6	143.4	7.850	349.1	6.530	6341.4	7.8	91.0	44.4	14.7
S.D	0.390	0.142	55.4	98.5	14.1	35.3	0.830	29.3	0.333	2215.9	3.6	3.5	1.8	0.9
S.E	0.098	0.036	13.9	25.4	3.5	8.8	0.222	7.8	0.083	554.0	0.9	0.9	0.5	0.2

Table C-7.

EXPERIMENT G GROUPS 1, 3, AND 6 (COMBINED)

ID0	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYMS	HCT	HGB
101	8.450	3.800	0.0	298.0	64.0	46.0	7.400	406.0	6.510	5630.0	12.0	83.0	43.0	14.2
102	9.000	4.150	225.0	325.0	52.0	67.0	8.200	432.0	7.030	3770.0	10.0	84.0	45.0	15.0
103	9.590	4.600	155.0	378.0	57.0	95.0	8.600	433.0	6.920	4830.0	6.0	92.0	43.0	14.2
104	8.120	3.300	282.0	312.0	74.0	113.0	7.500	401.0	7.740	6080.0	8.0	90.0	47.0	16.4
105	8.050	4.200	135.0	391.0	58.0	72.0	6.300	361.0	6.520	2820.0	19.0	81.0	43.0	14.4
106	6.150	2.300	195.0	378.0	67.0	121.0	7.000	410.0	7.440	3740.0	16.0	81.0	48.0	16.0
107	9.290	4.200	232.0	395.0	56.0	43.0	7.600	438.0	6.460	4020.0	5.0	90.0	45.0	14.7
108	8.830	3.800	150.0	318.0	52.0	59.0	7.000	383.0	6.880	6020.0	3.0	96.0	46.0	15.2
109	7.890	3.600	209.0	335.0	57.0	55.0	6.900	391.0	6.260	5060.0	14.0	85.0	43.0	14.2
110	7.040	3.200	226.0	368.0	70.0	67.0	6.800	385.0	6.390	5250.0	4.0	92.0	43.0	14.2
111	7.790	3.400	189.0	345.0	42.0	90.0	7.500	406.0	7.430	6010.0	4.0	93.0	48.0	15.9
112	7.450	3.100	130.0	371.0	45.0	33.0	7.800	431.0	6.460	3840.0	10.0	88.0	44.0	14.3
113	7.580	3.300	191.0	391.0	65.0	40.0	6.300	385.0	6.940	5260.0	7.0	91.0	47.0	15.7
114	5.830	2.400	178.0	302.0	52.0	46.0	5.900	366.0	6.750	5630.0	10.0	88.0	45.0	14.4
115	6.610	3.200	217.0	378.0	55.0	57.0	7.000	396.0	6.360	4550.0	9.0	89.0	43.0	14.6
116	8.980	3.900	204.0	388.0	35.0	42.0	7.200	413.0	6.590	5370.0	19.0	79.0	44.0	14.4
333	7.950	3.300	245.0	304.0	65.0	103.0	8.400	446.0	6.210	6220.0	12.0	87.0	43.0	14.4
334	6.020	2.700	202.0	278.0	45.0	53.0	6.400	373.0	7.300	3860.0	7.0	92.0	45.0	14.9
335	7.950	3.100	209.0	341.0	57.0	61.0	7.600	397.0	6.790	4900.0	10.0	85.0	42.0	13.9
336	8.260	3.700	293.0	318.0	56.0	80.0	7.200	404.0	7.350	5490.0	14.0	85.0	47.0	15.5
337	8.590	4.000	160.0	321.0	60.0	46.0	5.000	322.0	6.470	2330.0	6.0	93.0	45.0	15.0
338	8.010	3.600	219.0	364.0	87.0	75.0	5.100	331.0	6.920	6970.0	4.0	96.0	47.0	15.2
339	8.770	4.140	255.0	348.0	68.8	38.0	7.000	392.0	6.420	4480.0	5.0	94.0	43.0	14.2
340	9.060	4.100	159.0	328.0	67.0	83.0	7.100	403.0	6.380	6350.0	6.0	93.0	44.0	14.3
341	8.740	4.310	202.0	334.0	63.0	77.0	7.900	416.0	7.070	5450.0	4.0	93.0	46.0	15.5
342	5.670	2.950	307.0	295.0	54.0	43.0	6.600	361.0	6.570	3220.0	8.0	89.0	44.0	14.6
343	7.590	3.370	195.0	361.0	56.0	43.0	6.600	373.0	6.400	4440.0	5.0	92.0	42.0	13.7
344	7.130	3.050	220.0	308.0	97.0	92.0	7.700	425.0	6.260	5840.0	3.0	96.0	43.0	14.2
345	7.040	2.790	197.0	328.0	80.0	64.0	7.400	390.0	6.370	3120.0	7.0	92.0	43.0	14.0
346	6.100	2.600	149.0	324.0	76.0	42.0	6.300	359.0	6.420	3010.0	5.0	95.0	43.0	13.9
347	6.100	2.560	171.0	298.0	60.0	43.0	7.000	390.0	6.360	4060.0	17.0	81.0	43.0	14.3
348	8.000	3.900	204.0	368.0	48.0	68.0	7.400	391.0	6.630	3180.0	10.0	88.0	44.0	14.2
681	8.940	4.100	182.0	332.8	55.0	81.0	6.300	386.0	6.850	5370.0	10.0	89.0	45.0	14.6
682	7.890	3.600	285.0	315.0	45.0	89.0	6.700	396.0	6.570	2400.0	12.0	86.0	44.0	14.7
683	6.330	3.700	171.0	349.0	63.0	59.0	7.600	421.0	6.780	5630.0	7.0	93.0	43.0	14.2
684	7.870	3.400	256.0	339.0	45.0	65.0	7.400	402.0	7.040	5580.0	8.0	87.0	46.0	14.7
685	7.350	4.000	189.0	369.0	75.0	79.0	6.500	369.0	6.540	5290.0	9.0	90.0	45.0	14.9
686	7.060	3.200	202.0	319.0	51.0	39.0	6.200	373.0	6.730	4520.0	10.0	89.0	47.0	15.4
687	6.500	3.800	272.0	309.0	52.0	50.0	6.500	380.0	6.730	4410.0	7.0	92.0	45.0	15.0
688	7.630	3.400	213.0	302.0	68.0	62.0	7.200	395.0	6.810	6330.0	10.0	89.0	47.0	15.6
689	7.530	3.700	167.0	312.0	55.0	48.0	6.200	355.0	6.330	5100.0	12.0	85.0	43.0	14.7
690	7.610	3.600	263.0	329.0	69.0	110.0	8.900	443.0	6.200	3120.0	10.0	87.0	43.0	13.9
691	7.380	3.300	240.0	329.0	75.0	43.0	6.900	385.0	6.640	5800.0	7.0	92.0	45.0	15.0
692	9.090	4.200	202.0	309.0	68.0	167.0	6.100	360.0	6.620	2910.0	6.0	90.0	45.0	14.6
693	7.610	3.700	263.0	339.0	75.0	87.0	6.800	384.0	6.780	6000.0	10.0	84.0	47.0	15.0
694	8.050	3.600	157.0	305.0	88.0	38.0	6.400	370.0	6.910	5390.0	8.0	92.0	47.0	15.3
695	7.760	3.500	178.0	325.0	59.0	47.0	6.400	377.0	6.650	4990.0	11.0	86.0	46.0	14.3
696	7.890	3.600	229.0	315.0	63.0	34.0	6.200	360.0	6.740	6660.0	6.0	92.0	46.0	15.2
Q-1	7.095	3.200	178.0	312.0	53.0	43.0	6.400	373.0	6.420	3850.0	6.0	86.0	43.0	14.2
MED	7.830	3.600	202.0	328.5	59.5	60.0	7.000	390.5	6.635	5080.0	8.0	89.5	45.0	14.6
Q-3	8.355	3.900	232.0	362.5	68.0	80.5	7.450	406.0	6.895	5630.0	10.0	92.0	46.0	15.1
N	48.000	48.000	47.0	48.0	48.0	48.0	48.000	48.0	48.000	48.0	48.0	48.0	48.0	48.0
AVG	7.711	3.521	208.0	335.2	61.4	65.7	6.958	391.0	6.698	4797.9	8.8	89.1	44.7	14.7
S.D.	0.981	0.525	42.8	29.9	12.6	27.1	0.791	27.3	0.349	1198.1	3.9	4.3	1.7	0.6
S.E.	0.142	0.076	6.2	4.3	1.8	3.9	0.114	3.9	0.050	172.9	0.6	0.6	0.2	0.1

Table C-8.

EXPERIMENT G GROUPS 2, 4, AND 5 (COMBINED)

ID#	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYMS.	HCT	HGB
217	9.180	4.200	214.0	318.0	80.0	62.0	6.700	382.0	6.630	3130.0	9.0	87.0	44.0	14.6
218	8.860	4.100	223.0	288.0	63.0	65.0	5.900	351.0	6.680	5440.0	10.0	87.0	45.0	15.2
219	8.300	3.200	217.0	348.0	74.0	77.0	5.700	348.0	7.220	6160.0	9.0	87.0	44.0	14.6
220	7.210	3.000	212.0	365.0	57.0	62.0	6.100	356.0	6.780	2560.0	6.0	92.0	44.0	14.8
221	9.650	4.700	309.0	328.0	125.0	76.0	6.700	392.0	6.510	3470.0	8.0	91.0	46.0	15.2
222	6.190	2.780	288.0	308.0	56.0	57.0	5.900	350.0	6.460	4330.0	6.0	93.0	45.0	14.6
223	7.690	3.300	235.0	308.0	54.0	127.0	6.500	374.0	6.780	3820.0	8.0	87.0	46.0	15.0
224	8.020	3.600	191.0	368.0	64.0	78.0	6.600	374.0	6.960	6330.0	12.0	86.0	47.0	15.4
225	6.270	2.880	173.0	385.0	60.0	67.0	7.100	395.0	6.270	2620.0	5.0	95.0	43.0	14.0
226	9.130	4.400	233.0	302.0	53.0	70.0	7.500	412.0	6.420	4150.0	6.0	92.0	43.0	14.3
227	8.510	3.600	259.0	338.0	59.0	104.0	7.780	424.0	6.580	4630.0	21.0	72.0	43.0	14.0
228	7.730	3.700	177.0	348.0	101.0	70.0	7.100	399.0	6.440	2630.0	11.0	88.0	44.0	14.2
229	4.990	2.560	208.0	305.0	68.0	48.0	7.000	391.0	6.940	5680.0	8.0	92.0	47.0	15.7
230	7.770	3.800	205.0	385.0	62.0	59.0	7.200	405.0	6.870	5060.0	5.0	94.0	47.0	15.5
231	8.760	3.800	244.0	328.0	65.0	72.0	6.500	374.0	6.990	7450.0	12.0	87.0	45.0	15.0
232	8.080	4.200	256.0	358.0	70.0	66.0	7.500	417.0	6.310	5780.0	11.0	86.0	43.0	14.0
449	7.590	3.200	196.0	341.0	58.0	63.0	6.200	348.0	5.860	3130.0	6.0	92.0	42.0	14.0
450	8.660	3.700	270.0	314.0	40.0	89.0	6.400	364.0	7.110	6420.0	7.0	91.0	45.0	14.9
451	5.900	2.870	243.0	358.0	55.0	76.0	7.300	378.0	6.780	5650.0	15.0	82.0	43.0	14.0
452	6.840	3.000	227.0	341.0	105.0	84.0	6.700	393.0	7.230	8740.0	10.0	89.0	46.0	15.3
453	9.140	3.700	301.0	304.0	75.0	132.0	6.200	371.0	7.200	3860.0	7.0	93.0	47.0	15.7
454	7.610	3.500	191.0	311.0	66.0	68.0	7.400	415.0	6.470	2940.0	4.0	95.0	44.0	14.3
455	7.040	3.580	181.0	331.0	140.0	58.0	7.400	411.0	6.420	4750.0	8.0	91.0	43.0	14.0
456	7.410	3.120	154.0	331.0	65.0	42.0	7.000	399.0	6.280	3790.0	6.0	94.0	43.0	14.0
457	8.020	3.640	198.0	354.0	35.0	62.0	8.000	415.0	6.440	3460.0	12.0	83.0	44.0	14.3
458	7.230	3.090	200.0	344.0	85.0	54.0	4.900	317.0	7.110	4750.0	5.0	94.0	47.0	15.4
459	7.640	4.000	212.0	361.0	77.0	92.0	7.600	419.0	6.770	4200.0	7.0	93.0	47.0	15.1
460	7.370	3.300	249.0	328.0	69.0	44.0	6.000	338.0	7.210	3940.0	8.0	91.0	47.0	15.4
461	6.930	3.900	239.0	314.0	65.0	57.0	6.400	377.0	6.960	5010.0	6.0	91.0	48.0	15.3
462	9.140	4.500	215.0	298.0	49.0	60.0	7.000	397.0	6.430	5570.0	7.0	93.0	43.0	14.1
463	7.980	3.400	170.0	351.0	68.0	76.0	8.400	434.0	7.160	5550.0	19.0	76.0	47.0	15.0
464	6.570	3.200	175.0	334.0	75.0	57.0	5.900	361.0	6.350	3390.0	13.0	87.0	43.0	14.0
565	8.180	3.900	275.0	339.0	57.0	56.0	7.900	431.0	6.710	6320.0	11.0	88.0	45.0	15.0
566	7.810	3.500	199.0	349.0	63.0	58.0	7.000	397.0	6.950	3160.0	9.0	88.0	45.0	15.0
567	6.920	3.200	229.0	309.0	57.0	49.0	6.800	382.0	6.410	2250.0	4.0	95.0	43.0	14.2
568	7.790	3.600	203.0	315.0	61.0	49.0	6.300	360.0	6.780	2790.0	14.0	84.0	44.0	14.2
569	7.330	3.300	226.0	305.0	53.0	50.0	5.900	352.0	6.710	5690.0	5.0	94.0	47.0	15.5
570	6.600	3.200	219.0	332.0	62.0	67.0	6.000	352.0	6.420	3930.0	9.0	90.0	45.0	14.8
571	7.700	3.100	210.0	352.0	68.0	78.0	6.400	378.0	6.320	5350.0	7.0	93.0	43.0	13.9
572	7.000	3.900	189.0	342.0	35.0	47.0	7.200	387.0	6.390	4830.0	14.0	83.0	44.0	14.2
573	8.350	3.900	251.0	305.0	56.0	68.0	7.100	402.0	6.360	4410.0	9.0	86.0	44.0	14.2
574	8.170	3.500	208.0	329.0	55.0	68.0	7.100	408.0	7.140	5670.0	10.0	89.0	47.0	15.0
575	6.990	3.000	242.0	295.0	55.0	42.0	5.800	343.0	6.540	3620.0	20.0	77.0	44.0	14.3
576	8.080	4.500	184.0	349.0	54.0	33.0	7.300	406.0	6.660	5190.0	12.0	86.0	45.0	14.3
577	7.280	3.200	209.0	362.0	53.0	40.0	7.200	395.0	6.400	5190.0	8.0	92.0	45.0	14.9
578	6.580	3.400	193.0	309.0	72.0	49.0	6.700	383.0	6.770	3590.0	6.0	91.0	44.0	14.6
579	6.650	3.500	191.0	322.0	50.0	38.0	6.300	370.0	7.180	3470.0	16.0	80.0	46.0	15.2
580	8.030	3.800	253.0	319.0	62.0	119.0	7.200	405.0	6.960	4860.0	13.0	85.0	45.0	15.2
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Q-1	6.995	3.200	194.5	310.0	55.0	52.0	6.250	362.5	6.420	3470.0	6.0	86.0	43.5	14.2
MED	7.695	3.500	213.0	331.0	62.0	62.5	6.750	385.0	6.695	4520.0	8.5	89.5	45.0	14.7
Q-3	8.325	3.850	242.5	349.0	69.5	74.0	7.200	405.0	6.960	5560.0	12.0	92.5	46.0	15.2
N	48.000	46.000	48.0	48.0	48.0	48.0	48.000	48.0	48.000	48.0	48.0	48.0	48.0	48.0
AVG	7.675	3.546	219.7	331.8	65.6	66.2	6.765	384.0	6.694	4556.5	9.5	88.6	44.8	14.7
S.D.	0.978	0.484	34.5	23.7	19.4	21.3	0.696	26.8	0.327	1365.2	4.1	5.2	1.6	0.6
S.E.	0.141	0.070	5.0	3.4	2.8	3.1	0.100	3.9	0.047	197.0	0.6	0.7	0.2	0.1

Table C-9.

EXPERIMENT H GROUP 1

ID#	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYMS	HCT	HGB
101	5.470	1.900	144.0	461.0	75.8	75.2	6.500	356.0	6.230	3410.0	9.0	90.0	43.0	14.6
102	5.320	1.760	0.0	257.0	62.2	50.9	7.400	403.0	5.940	2816.0	9.0	89.0	40.0	13.7
103	5.210	2.010	195.0	466.0	45.4	57.5	5.400	348.0	6.420	4750.0	5.0	92.0	40.0	13.2
104	5.610	2.120	219.0	298.0	57.0	163.0	7.000	391.0	6.530	5350.0	12.0	86.0	46.0	15.0
105	5.060	2.020	293.0	407.0	52.4	60.0	7.400	398.0	6.150	3810.0	8.0	89.0	42.0	13.2
106	5.680	2.010	218.0	298.0	61.4	158.0	7.600	413.0	6.760	7510.0	12.0	86.0	47.0	15.2
107	6.260	2.280	161.0	348.0	51.0	101.0	7.300	412.0	6.650	5960.0	10.0	89.0	45.0	15.0
108	6.640	2.560	196.0	384.0	46.1	79.1	8.100	424.0	6.360	6050.0	10.0	89.0	44.0	14.6
109	5.700	2.290	261.0	421.0	88.9	149.0	8.000	440.0	6.850	7480.0	8.0	91.0	47.0	15.0
110	7.200	2.820	214.0	439.0	47.2	80.1	7.600	404.0	6.470	4380.0	13.0	86.0	44.0	14.0
111	5.430	1.910	157.0	402.0	58.0	73.2	6.600	374.0	6.660	5460.0	6.0	90.0	47.0	15.3
112	5.550	2.230	190.0	375.0	75.6	53.1	5.300	349.0	6.550	5890.0	9.0	90.0	45.0	15.0
113	5.550	2.060	211.0	303.0	87.7	50.9	6.200	382.0	6.850	2530.0	10.0	89.0	48.0	15.6
114	5.560	1.980	207.0	339.0	78.5	72.4	7.000	382.0	6.850	4340.0	5.0	92.0	47.0	15.2
115	5.720	2.160	222.0	380.0	79.5	126.0	7.500	412.0	6.380	4570.0	6.0	90.0	44.0	13.6
116	5.900	2.170	217.0	334.0	36.9	65.1	7.400	409.0	6.520	4170.0	9.0	91.0	51.0	17.0
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Q-1	5.450	1.995	190.0	318.5	49.1	58.8	6.550	378.0	6.370	3990.0	7.0	89.0	43.5	14.2
MED	5.585	2.090	211.0	377.5	59.7	74.2	7.350	400.5	6.525	4660.0	9.0	89.5	45.0	15.0
Q-3	5.810	2.255	219.0	414.0	75.7	113.5	7.550	412.0	6.710	5925.0	10.0	90.5	47.0	15.2
N	16.000	16.000	15.0	16.0	16.0	16.0	16.000	16.0	16.000	16.0	16.0	16.0	16.0	16.0
AVG	5.741	2.143	207.0	369.5	62.2	88.4	7.019	393.6	6.511	4904.8	8.8	89.3	45.0	14.8
S.D.	0.545	0.261	37.9	62.1	15.9	39.0	0.826	26.7	0.263	1461.2	2.4	1.9	2.9	1.0
S.E.	0.136	0.065	9.8	15.5	4.0	9.8	0.207	6.7	0.066	365.3	0.6	0.5	0.7	0.2

EXPERIMENT H GROUP 2

ID#	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYMS	HCT	HGB
217	5.410	2.020	112.0	362.0	53.2	92.5	8.400	436.0	6.220	6410.0	4.0	94.0	42.0	12.0
218	5.530	1.920	151.0	366.0	82.4	89.7	7.700	414.0	6.060	6100.0	6.0	88.0	44.0	14.6
219	5.060	1.820	175.0	348.0	65.9	0.0	5.400	319.0	5.660	2200.0	10.0	89.0	34.0	10.7
220	7.480	2.900	161.0	293.0	47.0	81.7	6.800	387.0	6.880	9620.0	6.0	91.0	48.0	15.3
221	5.600	2.160	224.0	325.0	52.8	54.9	6.300	349.0	6.300	2970.0	12.0	84.0	43.0	14.0
222	5.480	2.010	185.0	380.0	64.4	63.8	8.300	431.0	6.620	7420.0	7.0	92.0	46.0	14.8
223	5.810	2.300	269.0	475.0	70.9	84.3	7.600	385.0	6.380	5570.0	10.0	89.0	43.0	14.2
224	5.450	1.890	179.0	343.0	58.1	76.9	7.300	372.0	6.450	7460.0	9.0	89.0	46.0	15.2
225	6.660	2.540	199.0	339.0	66.4	113.0	7.400	394.0	6.210	5250.0	10.0	88.0	44.0	14.0
226	5.510	1.870	245.0	357.0	63.7	71.8	7.100	400.0	6.370	7330.0	10.0	87.0	44.0	14.6
227	5.330	1.970	222.0	380.0	46.1	77.6	7.600	403.0	6.480	4270.0	9.0	88.0	45.0	14.8
228	5.870	2.300	226.0	416.0	62.8	129.0	8.200	412.0	7.070	6410.0	8.0	91.0	47.0	15.6
229	5.400	1.930	187.0	325.0	85.1	84.7	8.000	427.0	6.610	7370.0	10.0	86.0	46.0	14.4
230	5.720	2.340	206.0	407.0	57.4	68.2	6.900	403.0	6.640	4360.0	5.0	94.0	46.0	15.0
231	6.090	2.430	227.0	425.0	71.3	62.0	6.400	355.0	6.990	4220.0	12.0	87.0	46.0	15.0
232	6.360	2.480	252.0	330.0	51.0	94.5	7.200	386.0	6.350	2190.0	10.0	79.0	46.0	14.5
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Q-1	5.430	1.925	177.0	334.5	53.0	68.2	6.850	378.5	6.260	4245.0	6.5	87.0	43.5	14.1
MED	5.565	2.090	202.5	359.5	63.3	81.7	7.350	397.0	6.415	5835.0	9.5	88.5	45.5	14.6
Q-3	5.980	2.385	226.5	393.5	68.7	92.5	7.850	413.0	6.630	7350.0	10.0	91.0	46.0	15.0
N	16.000	16.000	16.0	16.0	16.0	15.0	16.000	16.0	16.000	16.0	16.0	16.0	16.0	16.0
AVG	5.798	2.180	201.3	366.9	62.4	83.0	7.287	392.1	6.456	5571.9	8.6	88.5	44.4	14.3
S.D.	0.604	0.305	40.9	45.9	11.4	19.5	0.806	31.6	0.354	2098.4	2.4	3.7	3.2	1.3
S.E.	0.151	0.076	10.2	11.5	2.9	5.0	0.201	7.9	0.089	524.6	0.6	0.9	0.8	0.3

Table C-10.

EXPERIMENT H GROUP 3

ID#	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYMS	HCT	HGB
333	6.320	2.450	142.0	421.0	51.6	70.5	7.000	377.0	5.880	5480.0	6.0	92.0	41.0	12.4
334	5.390	2.040	130.0	393.0	112.0	92.8	7.600	412.0	6.420	7640.0	8.0	89.0	45.0	14.0
335	5.800	2.010	207.0	312.0	62.5	134.0	8.900	446.0	0.000	0.0	0.0	0.0	0.0	0.0
336	5.500	2.070	226.0	307.0	51.9	106.0	6.900	374.0	6.520	5550.0	6.0	94.0	45.0	14.7
337	5.350	1.870	170.0	348.0	53.8	73.8	6.800	400.0	6.470	7820.0	5.0	91.0	44.0	14.1
338	5.250	1.800	171.0	365.0	77.8	53.3	9.500	477.0	6.510	5520.0	11.0	88.0	43.0	14.0
339	5.320	1.930	178.0	380.0	67.5	66.1	6.500	378.0	6.350	6880.0	12.0	86.0	43.0	14.0
340	5.810	2.020	0.0	411.0	62.1	108.0	7.100	388.0	6.500	4480.0	7.0	92.0	46.0	14.6
341	5.310	1.960	133.0	243.0	57.4	66.0	6.500	368.0	6.590	10410.0	9.0	91.0	45.0	15.2
342	5.120	1.920	217.0	366.0	54.8	78.4	7.100	395.0	6.610	2180.0	14.0	85.0	45.0	14.5
343	6.000	2.230	186.0	293.0	53.8	102.0	7.400	401.0	6.530	3250.0	10.0	90.0	45.0	15.0
344	5.480	1.890	233.0	312.0	59.9	99.9	5.500	336.0	6.910	8420.0	7.0	90.0	48.0	15.8
345	5.420	1.860	177.0	362.0	64.3	65.9	8.500	431.0	0.000	0.0	0.0	0.0	0.0	0.0
346	6.170	2.270	192.0	375.0	52.8	137.0	8.000	406.0	6.540	7020.0	6.0	90.0	45.0	14.7
347	5.180	1.910	230.0	375.0	66.5	58.1	6.500	368.0	6.660	3180.0	13.0	83.0	45.0	15.0
348	5.110	2.000	216.0	321.0	70.0	78.1	8.200	420.0	6.890	4970.0	11.0	86.0	48.0	16.4
Q-1	5.280	1.980	170.0	312.0	53.8	66.1	6.650	375.5	6.470	4480.0	6.0	86.0	44.0	14.0
MED	5.485	1.980	186.0	363.5	61.0	78.3	7.100	397.5	6.525	5535.0	8.5	90.0	45.0	14.7
Q-3	5.805	2.055	217.0	377.5	67.0	104.0	8.100	416.0	6.610	7640.0	11.0	91.0	45.0	15.0
N	16.000	16.000	15.0	16.0	16.0	16.0	16.000	16.0	14.000	14.0	14.0	14.0	14.0	14.0
AVG	5.533	2.014	187.2	349.0	63.7	86.9	7.375	398.6	6.527	5914.3	8.9	89.1	44.9	14.6
S.D.	0.375	0.172	34.4	47.4	14.9	25.6	1.029	34.2	0.244	2273.6	2.9	3.1	1.8	0.9
S.E.	0.094	0.043	8.9	11.8	3.7	6.4	0.257	8.6	0.065	607.6	0.8	0.8	0.5	0.3

EXPERIMENT H GROUP 4

ID#	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYMS	HCT	HGB
449	5.970	2.070	161.0	402.0	83.9	132.0	6.300	364.0	6.850	3680.0	5.0	93.0	47.0	16.0
450	5.410	2.040	175.0	384.0	41.2	73.2	6.500	357.0	6.690	6730.0	16.0	83.0	45.0	14.0
451	5.190	1.930	221.0	366.0	45.6	61.6	6.500	387.0	6.890	4120.0	8.0	90.0	45.0	15.0
452	5.250	1.910	175.0	398.0	43.9	83.4	7.600	400.0	6.440	5350.0	7.0	92.0	45.0	14.2
453	5.350	1.840	150.0	312.0	54.5	109.0	7.100	391.0	6.960	4190.0	4.0	94.0	47.0	15.3
454	5.430	1.950	155.0	352.0	59.2	90.7	7.300	377.0	6.640	7930.0	8.0	90.0	46.0	15.1
455	5.510	1.980	224.0	316.0	46.4	60.7	7.000	384.0	6.850	7190.0	8.0	91.0	45.0	15.3
456	5.660	2.260	169.0	362.0	63.7	83.9	6.300	370.0	6.830	7060.0	8.0	90.0	47.0	15.3
457	5.420	1.980	272.0	271.0	87.7	98.1	6.000	350.0	6.490	4550.0	5.0	95.0	45.0	14.8
458	6.010	2.080	245.0	289.0	96.4	94.9	6.110	357.0	6.920	4450.0	4.0	94.0	48.0	15.6
459	5.490	2.210	212.0	334.0	40.7	50.1	7.500	395.0	6.490	5730.0	3.0	95.0	45.0	14.7
460	5.840	2.110	188.0	307.0	57.8	135.0	8.600	445.0	6.630	6830.0	12.0	88.0	47.0	15.0
461	5.010	1.710	226.0	439.0	48.7	45.5	6.200	379.0	6.560	5210.0	4.0	95.0	46.0	14.8
462	5.310	1.910	210.0	352.0	50.2	67.6	6.200	344.0	6.840	4470.0	13.0	84.0	46.0	14.8
463	6.120	2.660	199.0	443.0	94.4	50.6	4.800	334.0	6.370	7990.0	6.0	94.0	43.0	14.4
464	5.470	1.880	203.0	325.0	71.6	71.5	5.400	328.0	6.880	9960.0	9.0	87.0	47.0	15.4
Q-1	5.330	1.910	172.0	314.0	46.0	61.2	6.155	353.5	6.525	4460.0	4.5	89.0	45.0	14.8
MED	5.450	1.980	201.0	352.0	56.2	78.3	6.400	373.5	6.760	5540.0	7.5	91.5	46.0	15.0
Q-3	5.750	2.095	222.5	391.0	77.8	96.5	7.200	389.0	6.865	7125.0	8.5	94.0	47.0	15.3
N	16.000	16.000	16.0	16.0	16.0	16.0	16.000	16.0	16.000	16.0	16.0	16.0	16.0	16.0
AVG	5.528	2.033	199.1	353.3	61.6	81.7	6.588	372.6	6.708	5965.0	7.5	90.9	45.9	15.0
S.D.	0.313	0.217	34.2	50.5	19.3	27.3	0.913	29.0	0.193	1775.1	3.6	3.8	1.3	0.5
S.E	0.078	0.054	8.5	12.6	4.8	6.8	0.228	7.2	0.048	443.8	0.9	1.0	0.3	0.1

Table C-11.

EXPERIMENT H GROUP 5

ID#	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYMS	HCT	HGB
565	5.590	2.040	224.0	339.0	70.8	122.0	8.200	415.0	6.670	2570.0	8.0	89.0	47.0	15.6
566	6.110	2.230	177.0	393.0	43.1	92.8	6.400	382.0	6.830	4130.0	3.0	93.0	47.0	15.0
567	5.720	2.200	269.0	316.0	67.4	83.2	6.300	383.0	7.030	7410.0	7.0	92.0	47.0	15.4
568	5.450	2.000	0.0	470.0	56.1	83.2	6.200	382.0	6.660	6140.0	8.0	91.0	47.0	14.8
569	6.340	2.610	230.0	330.0	58.8	34.5	6.800	375.0	6.410	6790.0	10.0	88.0	43.0	13.6
570	5.350	1.960	235.0	407.0	62.1	43.5	6.300	357.0	6.340	6610.0	7.0	91.0	44.0	14.6
571	6.220	2.500	215.0	284.0	116.0	72.1	6.100	369.0	6.850	6820.0	5.0	95.0	45.0	15.0
572	6.670	2.630	250.0	321.0	70.2	88.5	7.400	392.0	6.480	1940.0	13.0	87.0	44.0	14.4
573	5.550	2.060	263.0	316.0	73.2	55.7	7.300	408.0	6.700	8340.0	6.0	93.0	47.0	15.4
574	5.660	2.270	134.0	339.0	67.0	48.4	7.300	405.0	6.820	4740.0	6.0	93.0	47.0	15.0
575	6.660	2.420	220.0	371.0	56.1	189.0	7.100	404.0	6.980	9010.0	10.0	87.0	48.0	15.4
576	5.720	2.120	253.0	253.0	68.2	62.0	7.400	396.0	6.810	4710.0	6.0	89.0	48.0	15.4
577	6.100	2.270	235.0	389.0	63.0	70.1	6.500	351.0	6.320	4270.0	9.0	89.0	44.0	14.2
578	5.810	2.010	333.0	384.0	66.5	204.0	6.800	368.0	6.540	8730.0	9.0	90.0	45.0	15.0
579	5.660	2.370	207.0	402.0	68.6	135.0	7.800	397.0	6.490	2700.0	12.0	85.0	45.0	15.0
580	6.260	2.420	240.0	325.0	62.5	90.0	8.100	428.0	7.180	9400.0	6.0	90.0	47.0	15.6
Q-1	5.625	2.050	215.0	318.5	60.5	58.9	6.350	372.0	6.485	4200.0	6.0	88.5	44.5	14.7
MED	5.765	2.250	235.0	339.0	66.8	83.2	6.950	387.5	6.685	6375.0	7.5	90.0	47.0	15.0
Q-3	6.240	2.420	253.0	391.0	69.4	107.4	7.400	404.5	6.840	7875.0	9.5	92.5	47.0	15.4
N	16.000	16.000	15.0	16.0	16.0	16.0	16.000	16.0	16.000	16.0	16.0	16.0	16.0	16.0
AVG	5.929	2.257	232.3	352.4	66.9	92.1	7.000	388.3	6.694	5894.4	7.8	90.1	45.9	15.0
S.D.	0.415	0.218	44.0	53.8	15.1	48.7	0.679	21.3	0.253	2393.4	2.6	2.7	1.6	0.5
S.E.	0.104	0.055	11.4	13.4	3.8	12.2	0.170	5.3	0.063	598.4	0.7	0.7	0.4	0.1

EXPERIMENT H GROUP 6

ID#	T.P.	GLOB	GLU	T.L.	CHOL	TRIG	WT/DAY	FNL WT	RBC	WBC	POLY	LYMS	HCT	HGB
681	5.580	2.030	189.0	457.0	50.1	82.4	6.700	368.0	6.690	2750.0	7.0	91.0	45.0	15.0
682	5.810	2.160	248.0	389.0	57.7	139.0	6.800	390.0	6.270	6070.0	8.0	90.0	43.0	14.6
683	5.590	2.010	198.0	375.0	59.3	139.0	6.600	384.0	0.000	0.0	0.0	0.0	0.0	0.0
684	5.390	1.820	160.0	312.0	79.0	110.0	6.600	378.0	6.300	6710.0	8.0	90.0	43.0	14.2
685	7.080	2.930	226.0	339.0	46.6	40.9	7.300	397.0	6.660	4450.0	6.0	93.0	46.0	14.2
686	5.950	2.320	178.0	321.0	67.9	99.9	6.800	373.0	6.520	5560.0	4.0	96.0	45.0	15.0
687	5.670	2.170	210.0	493.0	82.4	103.0	6.600	371.0	6.990	2840.0	17.0	82.0	46.0	14.8
688	6.190	2.280	195.0	358.0	74.6	118.0	7.400	403.0	6.910	[illegible]	10.0	88.0	48.0	15.4
689	6.010	2.430	208.0	235.0	47.5	76.8	8.800	451.0	6.780	5230.0	6.0	94.0	48.0	15.6
690	5.460	1.970	232.0	443.0	73.9	54.8	5.100	343.0	6.830	10130.0	9.0	86.0	47.0	15.5
691	5.610	2.030	167.0	330.0	75.6	81.7	8.100	429.0	6.520	5200.0	8.0	92.0	45.0	15.0
692	5.490	2.190	146.0	362.0	71.0	48.4	7.200	388.0	6.530	8660.0	12.0	87.0	47.0	15.4
693	5.410	2.070	241.0	389.0	44.1	62.3	7.400	397.0	6.120	6080.0	15.0	83.0	44.0	14.4
694	5.240	1.900	162.0	398.0	55.4	43.9	8.000	393.0	6.350	3360.0	12.0	85.0	45.0	14.6
695	5.860	2.220	217.0	203.0	34.4	46.2	6.400	374.0	6.510	4290.0	9.0	91.0	45.0	14.8
696	7.350	3.090	220.0	357.0	80.1	32.8	7.500	409.0	7.350	7520.0	10.0	89.0	49.0	16.2
Q-1	5.475	2.020	172.5	325.5	48.8	47.3	6.600	373.5	6.350	4290.0	7.0	86.0	45.0	14.6
MED	5.640	2.165	203.0	360.0	63.6	79.3	7.000	389.0	6.530	5560.0	9.0	90.0	45.0	15.0
Q-3	5.980	2.300	223.0	393.5	75.1	106.5	7.450	400.0	6.830	6710.0	12.0	92.0	47.0	15.4
N	16.000	16.000	16.0	16.0	16.0	16.0	16.000	16.0	15.000	15.0	15.0	15.0	15.0	15.0
AVG	5.856	2.226	199.8	360.1	62.5	79.9	7.081	390.5	6.622	5636.7	9.4	89.1	45.7	15.0
S.D.	0.589	0.345	30.8	74.3	15.0	35.0	0.843	25.4	0.318	2058.8	3.5	4.0	1.8	0.6
S.E.	0.147	0.086	7.7	18.6	3.7	8.8	0.211	6.3	0.082	531.6	0.9	1.0	0.5	0.1

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Three hundred eight-four young male rats were exposed to 45 Hertz, vertical, electric fields of 0 to 100 V/m. It was concluded that no biological effects from exposure to these electric fields were observed on growth, food consumption and water consumption, nor the blood concentrations of total protein, globulin, glucose, cholesterol, triglycerides and total lipid, nor on the hematological values for red blood cells, white blood cells, segmented neutrophils, lymphocytes, monocytes, eosinophils, hematocrit or hemoglobin.